UNIT COPY

NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Diaphragm connection holes shall be $^{15}/_{16}$"φ for $^{3}/_{4}$"φ bolts. Two hardened washers shall be required at diaphragm connections.

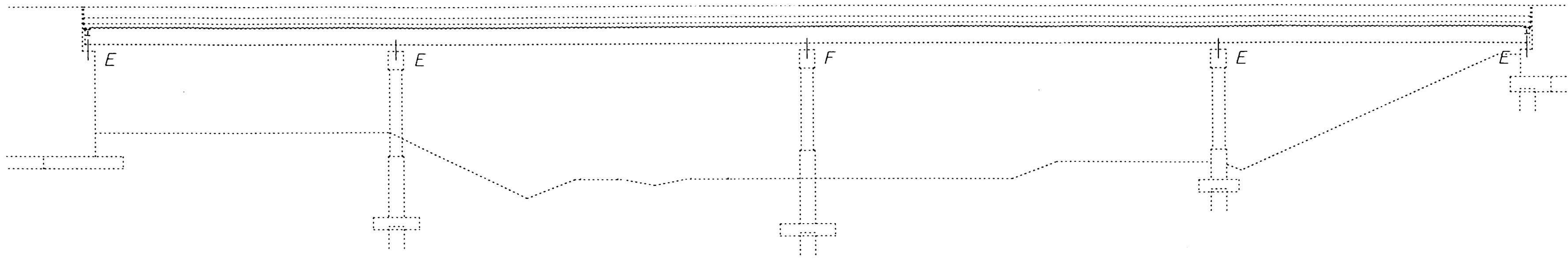
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the GBSP "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

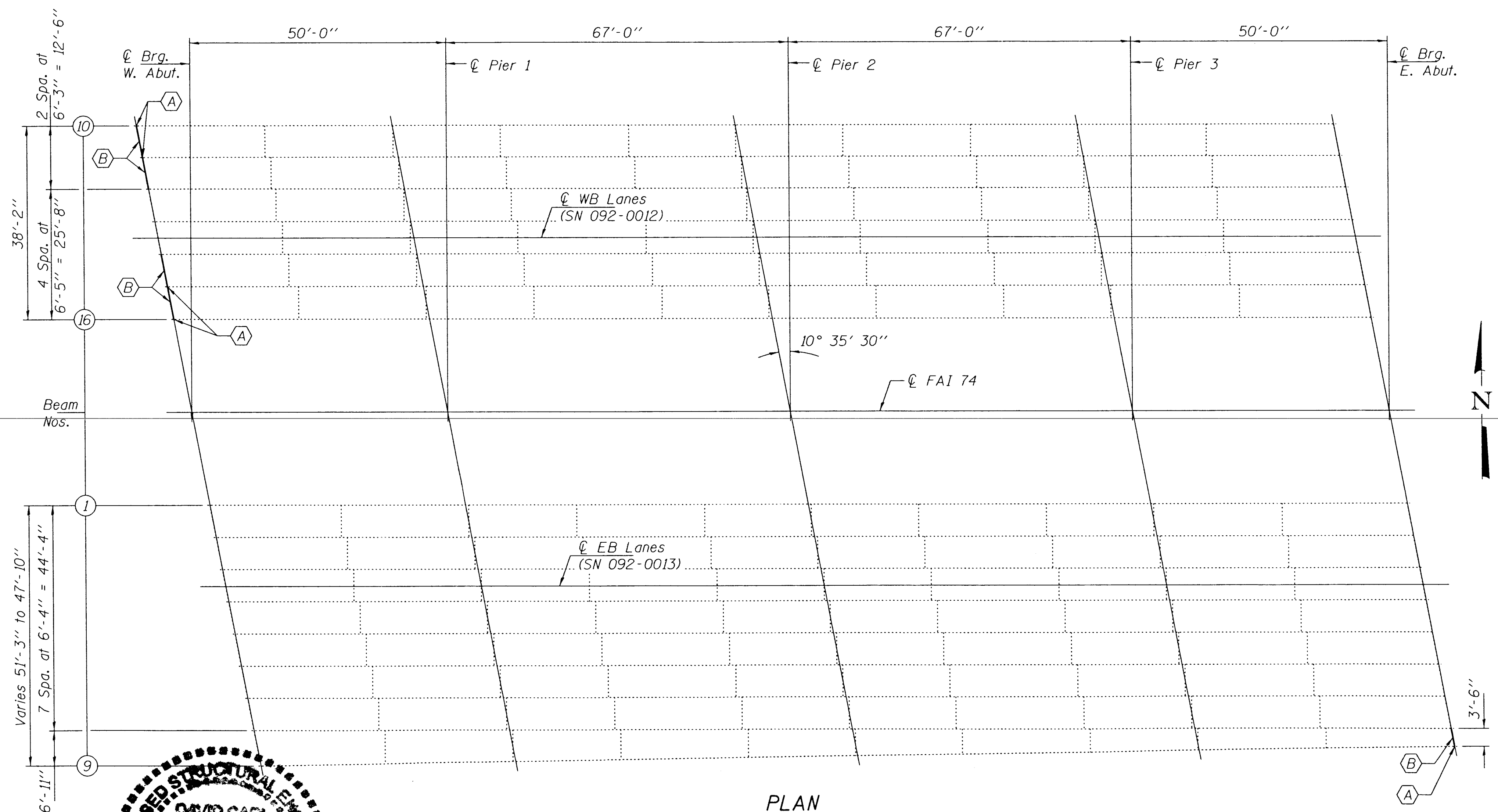
All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type I. Cost included with Furnishing and Erecting Structural Steel.

Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Furnishing and Erecting Structural Steel.

Fasteners shall be high strength bolts. Bolts $^{3}/_{4}$"φ, open holes $^{13}/_{16}$"φ, unless otherwise noted.



ELEVATION



PLAN

(A) - Beam end repairs

(B) - Replace diaphragm and clip angle

EXPIRES 11-30-2018

TOTAL BILL OF MATERIAL

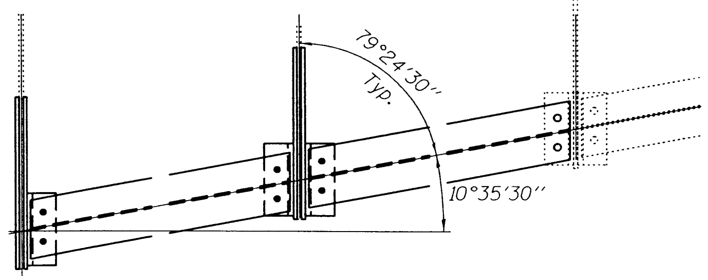
	ITEM	UNIT	TOTAL
	Structural Steel Repair	Pound	2440
*	Structural Steel Removal	Pound	1250
*	Furnishing and Erecting Structural Steel	Pound	1270

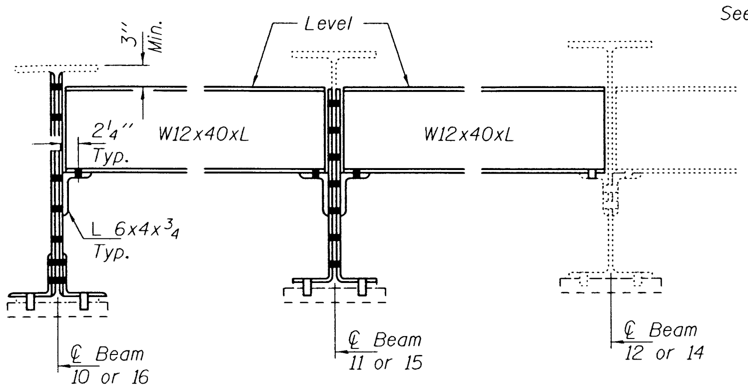
* Includes diaphragms and clip angles

DESIGNED Stephen M. Ryan	EXAMINED	DATE JUNE 14, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED Hameed Saliz	ENGINEER OF STRUCTURAL SERVICES		
DRAWN baliva	PASSED	REVISED	
CHECKED SMR HSS	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	

PLAN AND ELEVATION
FAI 74 OVER CONRAIL
SN 092-0012 & 0013
SHEET NO. 1 OF 2 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	-	VERMILION	-	
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

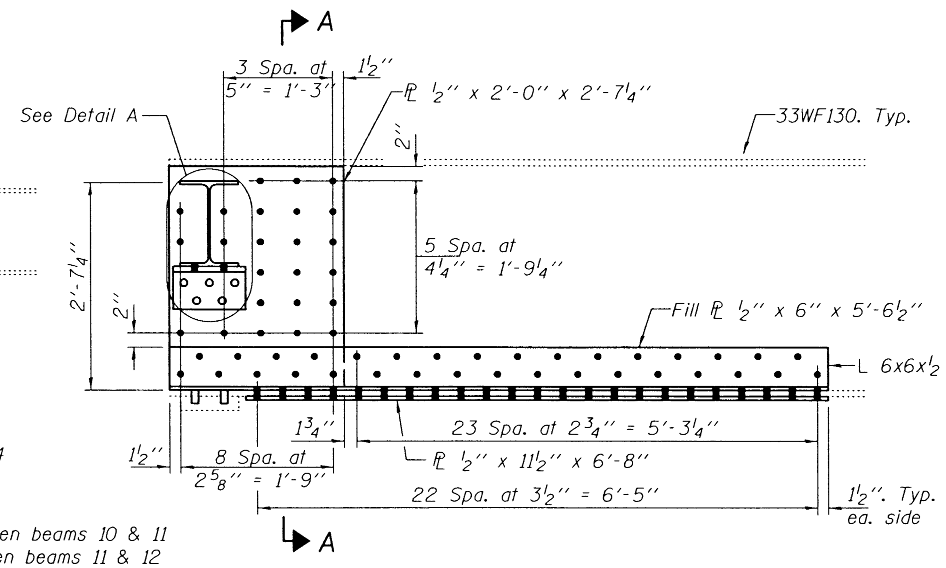




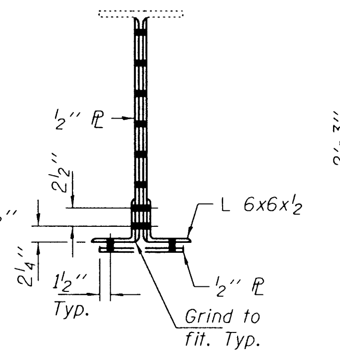
END VIEW

Beams 10-12 Looking East
Beams 14-16 similar
(West Abutment)

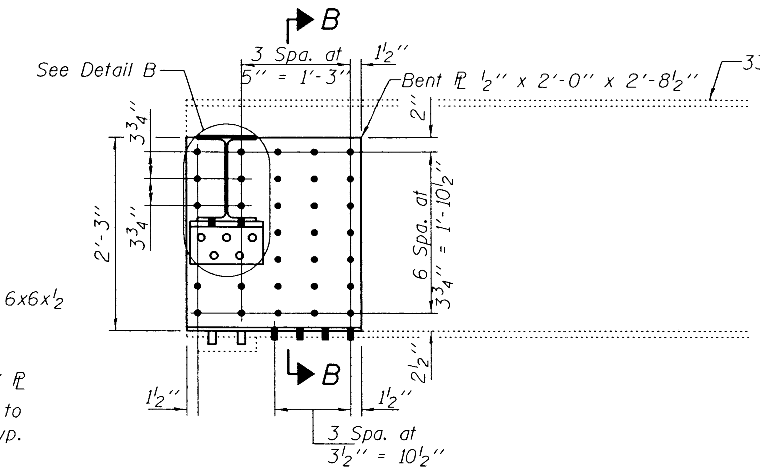
L = 5'-9⅞'' between beams 10 & 11
L = 5'-9¼'' between beams 11 & 12
L = 6'-2⅞'' between beams 16 & 15
L = 6'-3⅜'' between beams 15 & 14



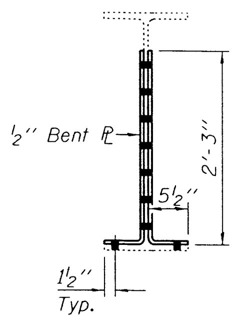
ELEVATION
BEAMS 10 & 16
(West Abutment)



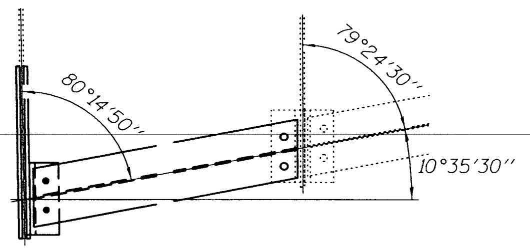
SECTION A-A

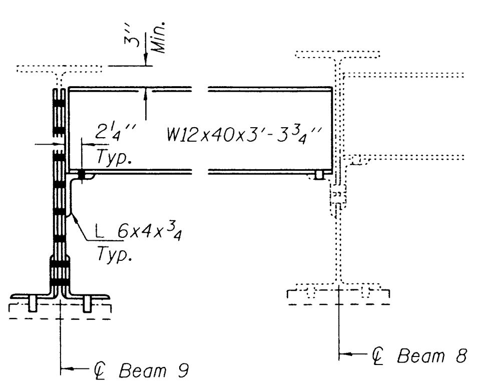


ELEVATION
BEAMS 11 & 15
(West Abutment)



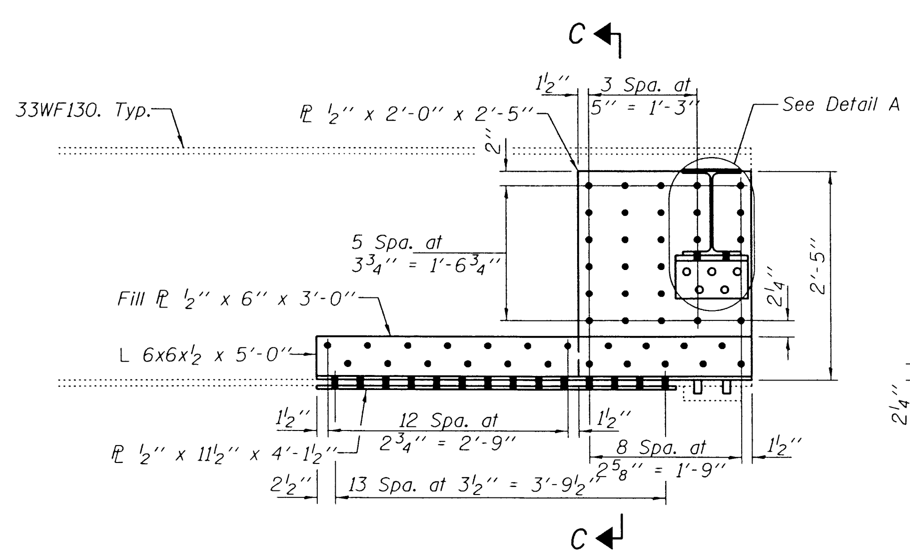
SECTION B-B



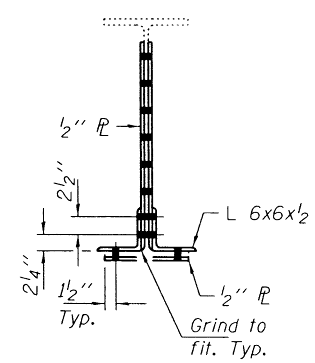


END VIEW

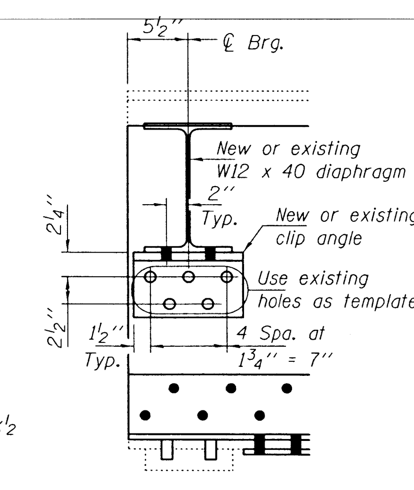
Looking West
(East Abutment)



ELEVATION
BEAM 9
(East Abutment)

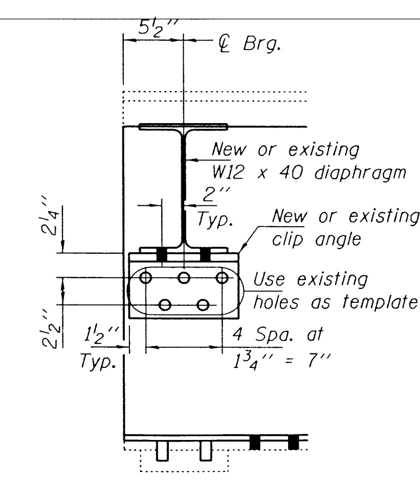


SECTION C-C



DETAIL A

Repair plate bolts not shown for clarity.



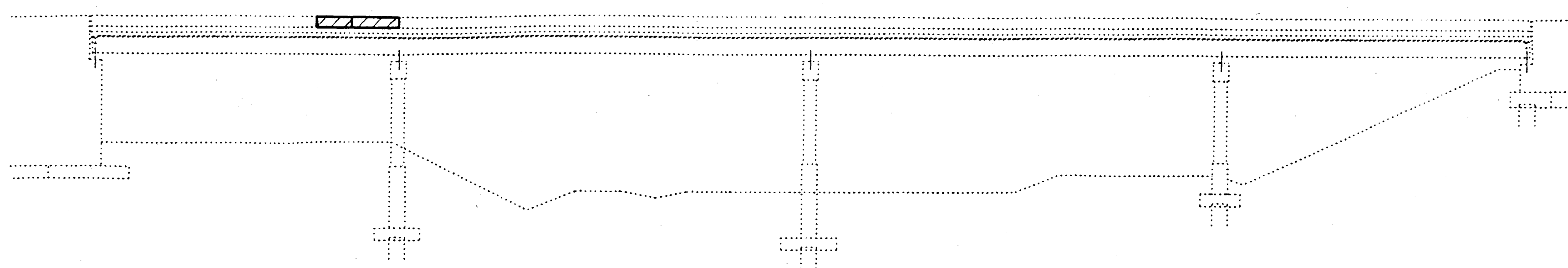
DETAIL B

● - Use holes in new steel as template
○ - Use holes in existing steel as template

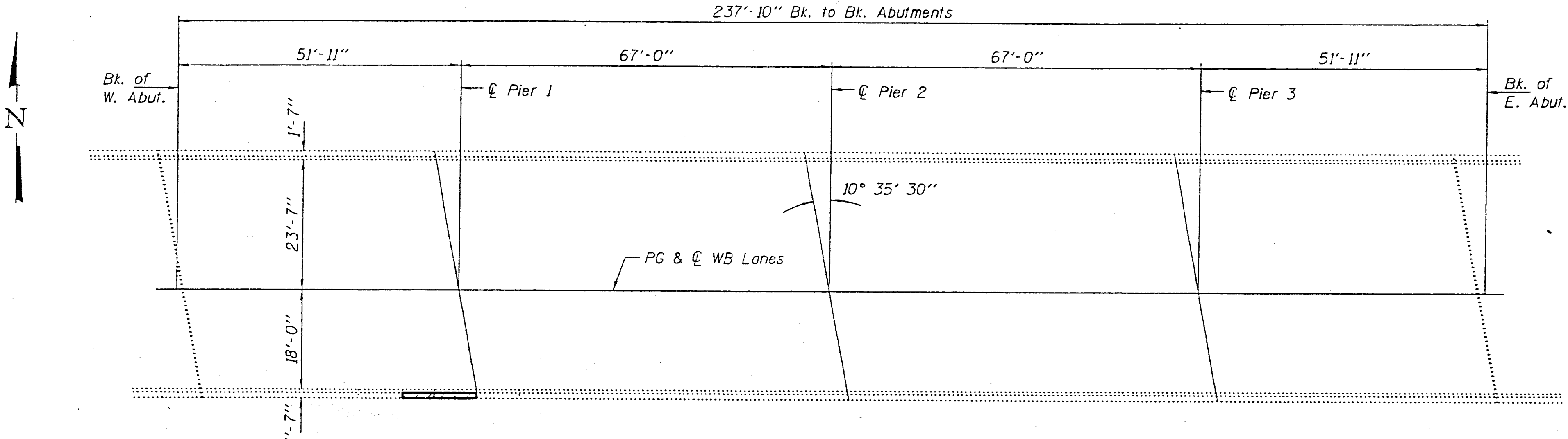
DESIGNED SMR	EXAMINED [signature] ENGINEER OF STRUCTURAL SERVICES	DATE JUNE 21, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REPAIR DETAILS SN 092-0012 & 0013	F.A.I RTE. 74 / SECTION - / COUNTY VERMILION / TOTAL SHEETS - / SHEET NO.
CHECKED HSS					
DRAWN baliva	PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES	REVISED			CONTRACT NO.
CHECKED SMR HSS		REVISED		SHEET NO. 2 OF 2 SHEETS	ILLINOIS FED. AID PROJECT

092-0012 & -0013

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION

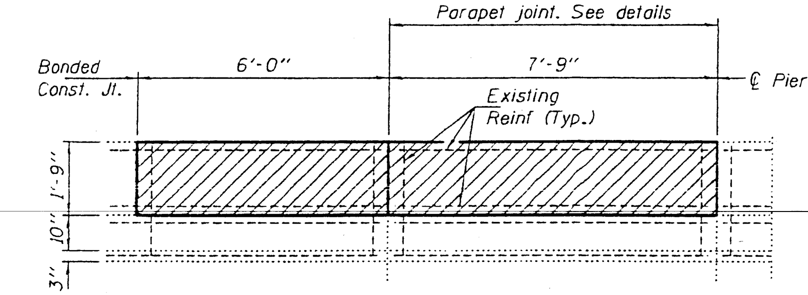


PLAN

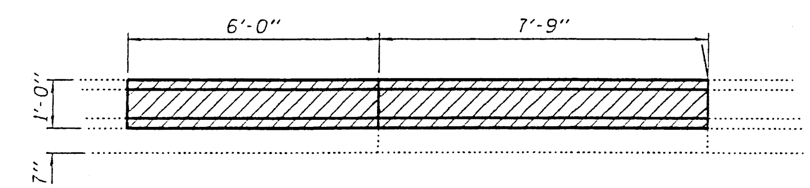
GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

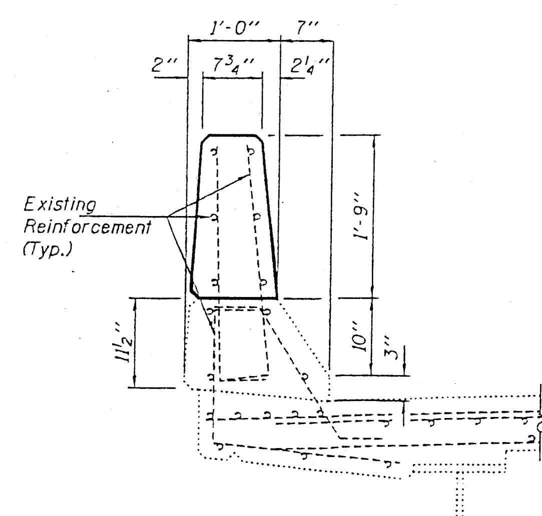


PARTIAL PARAPET ELEVATION

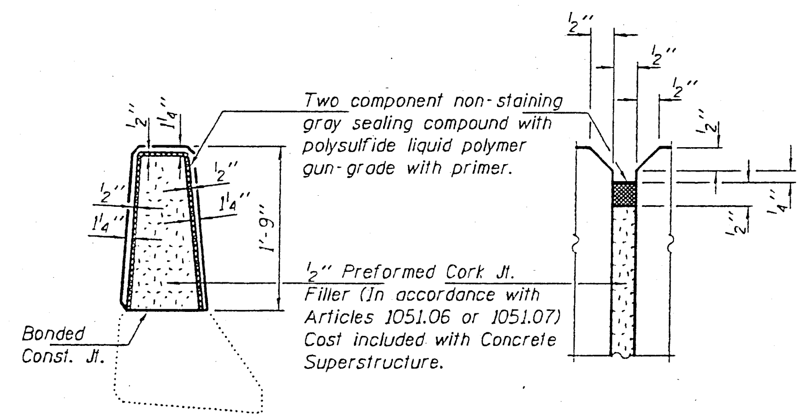


PARTIAL PARAPET PLAN

Hatched areas indicate removal & replacement
The contractor shall make provision to ensure that no debris falls to the roadway below during the removal operation.



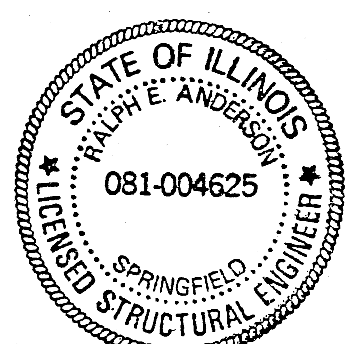
TYPICAL PARAPET SECTION



PARAPET JOINT DETAILS

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	0.74
Concrete Superstructure	Cu. Yd.	0.74



EXPIRES 11-30-2010

FEBRUARY 5, 2010

EXAMINED — ENGINEER OF STRUCTURAL SERVICES

PASSED — ENGINEER OF BRIDGES AND STRUCTURES

DESIGNED	Vichay K. Uelitz
CHECKED	
DRAWN	balivo
CHECKED	VHU

PLAN AND ELEVATION
FAI 74 OVER CONRAIL
SN 092-0012

SHEET NO. 1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	74	-	VERMILION	-	-
1 SHEETS			CONTRACT NO.		
			ILLINOIS FED. AID PROJECT		

VERMILION SEC 92 (11 RS, 11 BR, 11 VB-BR, 11 VB-1-BR) I & R ~~JUNE 24 1991~~

95%
7-6-94

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	165	1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
FEDERAL AID INTERSTATE HIGHWAY

D-95-026-89

FOR INDEX OF SHEETS, SEE SHEET NO. 5
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 7-11 (INCL.)

SCALES: PLAN; PROFILE HOR.; PROFILE VERT.; CROSS-SECTIONS

F.A.I. ROUTE 74, SECTION 92(11RS,11BR,11VB-BR,11VB-1-BR)

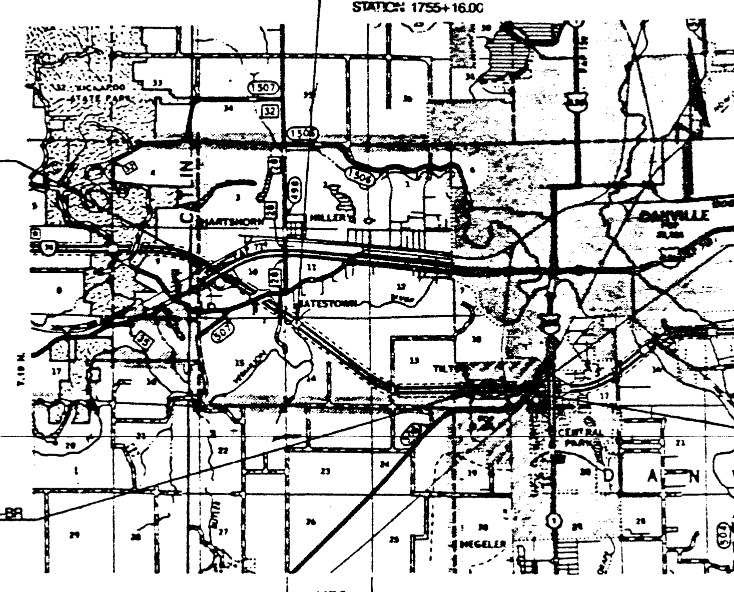
VERMILION COUNTY

C-95-067-90

INTERSTATE RESURFACING AND BRIDGE REHABILITATION

BRIDGE SECTION 92-11BR
STATION 1755+16.00

SECTION 92(11RS,11BR,11VB-BR,11VB-1-BR)
BEGINS STATION 1716+00

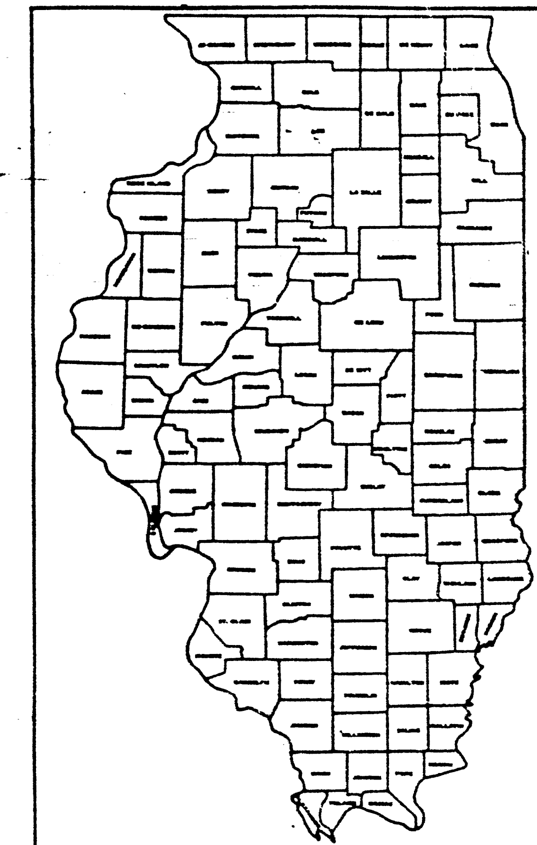


SECTION 92(11RS, 11BR, 11VB-BR, 11VB-1-BR)
ENDS STATION 1906+00

BRIDGE SECTION 91-11VB-1-BR
STATION 1900+80.59

BRIDGE SECTION 92-11VB-BR
STATION 1877+01.73

SCALE: 1"=1 MILE



LOCATION OF SECTION INDICATED THUS:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED April 25 1991
J.D. Benson — DISTRICT ENGINEER
EXAMINED 7 91 Gary D. Gould — ENGINEER OF PLANS AND SPECIFICATIONS
PASSED J.H. Williams — ENGINEER OF DESIGN
APPROVED 91 Ralph C. Wehner — ENGINEER, BUREAU OF DESIGN

PROJECT ENGINEER: PAUL KOEHLER
SQUAD LEADER: DON CRAWN

092-0012 & -0013

DESIGN DESIGNATION
1630 (13) INTERSTATE 6.13(COMP.-6)

CONTRACT NO. 90165

TOTAL & NET LENGTH OF SECTION 92(11RS,11BR,11VB-BR,11VB-1-BR) = 19,200.00FEET = 3.63 MILES

TOLL FREE J.U.L.I.E. TELEPHONE NO.
1-800-892-0123

DANVILLE TOWNSHIP

~~U.S. DEPARTMENT OF TRANSPORTATION~~
~~FEDERAL HIGHWAY ADMINISTRATION~~
~~APPROVED~~
~~DIVISION ADMINISTRATOR DATE~~

VERMILION COUNTY SECTION* F.A.I. ROUTE 74
*92(11RS,11BR,11VB-BR,11VB-1-BR)

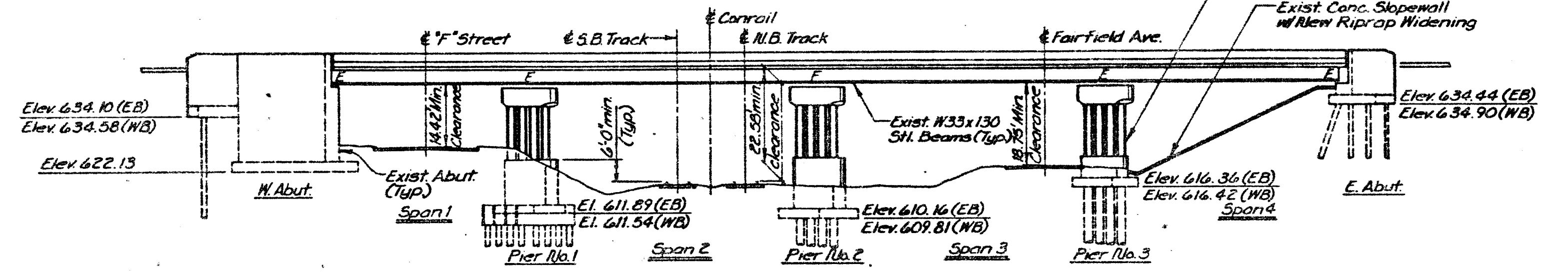
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	***	Vermilion	165	131
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

Dwg. No. 1 of 32

***(92-11VB-1)BR

BENCHMARK: PERMANENT SURVEY MARKER TYPE II
STATION 1899+50, TOP OF BRASS PLUG ELEV. 643.95

EXISTING STRUCTURE: STRUCTURE NO.'S 092-0012 & 092-0013 WERE BUILT IN 1964 AS FAI 74, SECTION 92-11VB-1. REPAIRS PERFORMED IN 1977 INCLUDED DECK PATCHING, EXPANSION DEVICE RECONSTRUCTION, INSTALLATION OF WATERPROOFING MEMBRANE SYSTEM, AND BITUMINOUS OVERLAY. EACH STRUCTURE CONSISTS OF A FOUR SPAN CONTINOUS STEEL BEAM AND CONCRETE DECK SUPERSTRUCTURE WITH MULTIPLE COLUMN PIERS, PILE BENT EAST ABUTMENTS, AND CLOSED WEST ABUTMENTS. OVERALL LENGTH IS 237'-10-1/8". OVERALL WIDTH VARIES. TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION. HANDRAIL TO BE SALVAGED; BRIDGE CONTRACTOR TO STOCKPILE ON STATE ROW FOR REMOVAL BY DISTRICT MAINTENANCE FORCES.



ELEVATION

WESTBOUND

STATION 1900+80.59
REBUILT 199_ BY
STATE OF ILLINOIS
FAI RTE. 74 SECTION (92-11 VB-1)BR
LOADING HS20 & ALT.
STR. NO. 092-0012

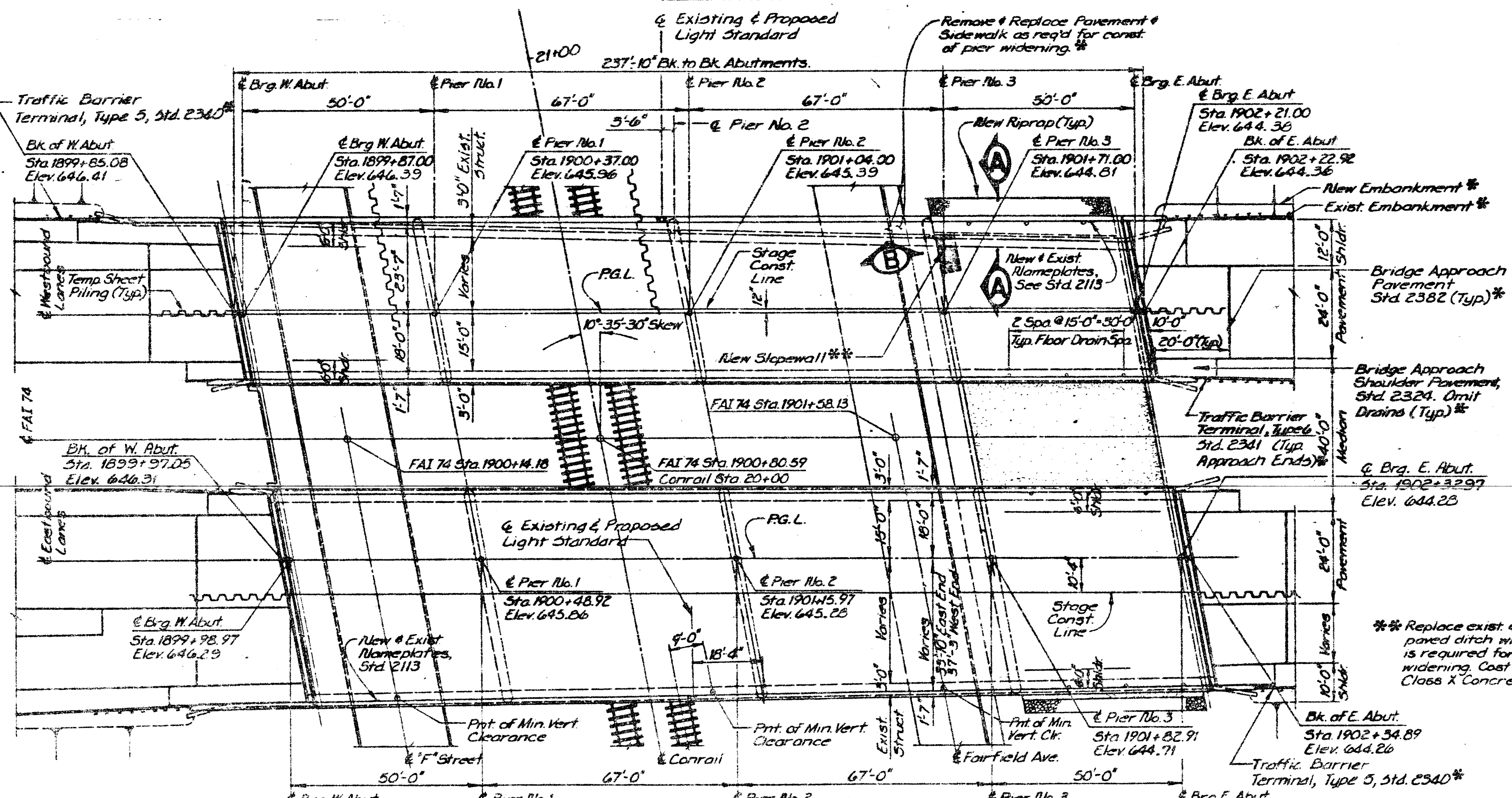
EASTBOUND

STATION 1900+80.59
REBUILT 199_ BY
STATE OF ILLINOIS
FAI RTE. 74 SECTION (92-11 VB-1)BR
LOADING HS20 & ALT.
STR. NO. 092-0013

NEW NAME PLATES (1 EA. REQ'D)

(SEE STD. 2113)

Note
Salvage Existing Name Plates & Mount Adjacent to New Name Plates on New Parapet as shown on Std. 2113. The cost of Salvaging & Incorporating Exist. Name Plates into New Work is Incidental to Name Plates.



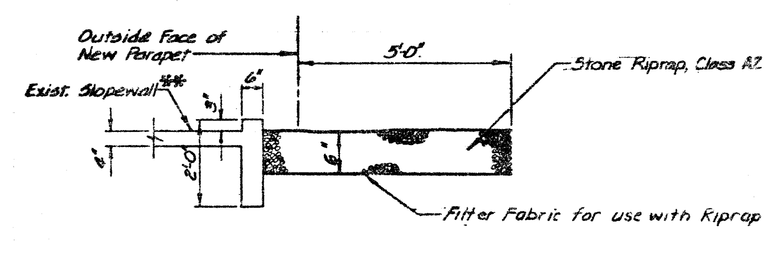
PLAN

LEGEND

F = Fixed Brg.
E = Exp. Brg.
PGL = Profile Grade Line

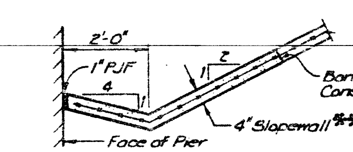
*See Roadway Plans for Details & Quantities

**Replace exist. 6" slopewall & paved ditch where it's removal is required for const. of pier widening. Cost incidental to Class X Concrete.

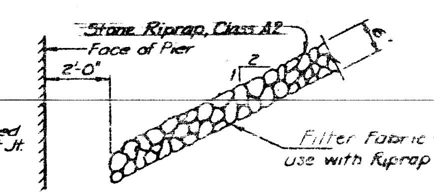


SECTION A-A

(Typ. 2 Locations)



SECTION B

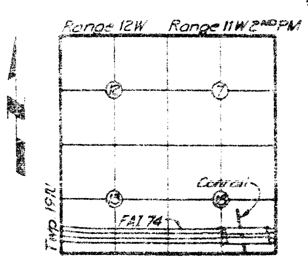


RIPRAP TOE DETAIL

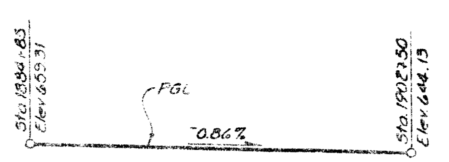
(Typ. 2 Locations)

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Licensed Structural Engineer

STATE OF ILLINOIS
RICHARD D. PAYNE
No. 4647
LICENSED STRUCTURAL ENGINEER

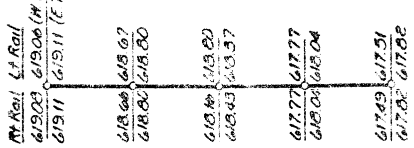


LOCATION SKETCH



FAI 74 PROFILE GRADE

(Along ℄ Pavement)



CONRAIL PROFILE

(Top of Rail)

DESIGN SPECIFICATIONS
AASHTO 1989 and applicable Interims 1990 & Seismic Retrofitting Guidelines for Hwy. Bridges
LOADING
HS 20-44 & ALTERNATE MILITARY, WITH ALLOWANCE FOR 25 psf F.W.S.

DESIGN STRESSES (NEW CONSTRUCTION)
f'_c = 3,500 psi
f_y = 60,000 psi (REINF. BARS)

DESIGN STRESSES (EXISTING ELEMENTS TO BE REUSED)
f'_c = 3,500 psi
f_y = 40,000 psi (REINF. BARS)
f_s = 20,000 psi (REINF. BARS)
f_y = 36,000 psi New (M-183 Struct. Steel)

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	1-90
DRAWN BY:	WEM	1-90
CHECKED BY:	JRF	1-90
APPROVED BY:	RDP	1-90

GENERAL PLAN & ELEVATION

FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

✱ (92-11VB-1) BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	✱	Vermilion	165	132

STA. TO STA.

FED. ROAD DIST. NO. 7 | ILLINOIS | PROJECT

Dwg No. 2 of 32

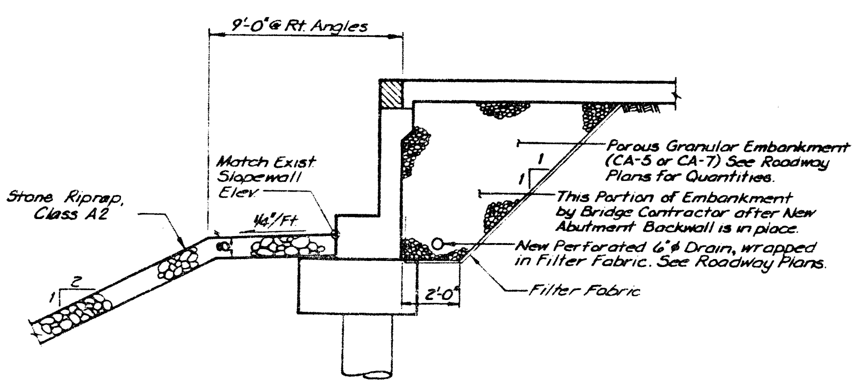
GENERAL NOTES

1. SEE PROPOSAL FOR BORING DATA.
2. FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" ø, OPEN HOLES 13/16" ø, UNLESS OTHERWISE NOTED.
3. CALCULATED WEIGHT OF STRUCTURAL STEEL = 26,000 LBS.
5. ALL CONTACT SURFACES OF JOINTS FOR THE DIAPHRAGMS AND BOLTED SPLICES SHALL BE FREE OF PAINT OR LACQUER.
6. FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.
7. ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.
8. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53 GRADE 60.
9. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
10. EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS., AND 3/4" ø X 12" HOOKED BOLTS.
11. BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8 INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS.
12. THE CONTRACTOR SHALL DRIVE ONE HP10X42 TEST PILE IN A PERMANENT LOCATION AT THE EAST ABUTMENT WINGWALL, WEST BOUND LANES, AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE PILES.
13. THE CONTRACTOR WILL BE REQUIRED TO MARK ON TOP OF THE CONCRETE DECK THE LOCATIONS OF THE TOP FLANGE OF ALL THE STEEL BEAMS OR GIRDERS, PRIOR TO ANY REMOVAL OF THE BRIDGE CONCRETE DECK. SAW CUTTING DIRECTLY OVER THE TOP OF THE BEAM OR GIRDER FLANGES IS NOT PERMITTED.
14. DRAINAGE ALONG RAILROAD TRACKS MUST BE MAINTAINED AT ALL TIMES.
15. RAILROAD TRACKS MUST BE PROTECTED FROM FALLING DEBRIS DURING DEMOLITION AND REMOVAL OF EXISTING CONCRETE DECKS. THE CONTRACTOR MUST SUBMIT HIS PROPOSED DEBRIS PROTECTION PLAN TO CONRAIL FOR REVIEW AND APPROVAL PRIOR TO COMMENCING ANY REMOVAL WORK OVER THE RAILROAD.
16. THE CONTRACTOR MUST SUBMIT HIS PROPOSED PROCEDURE FOR RELOCATION OF STEEL BEAMS TO CONRAIL FOR REVIEW AND APPROVAL PRIOR TO COMMENCING ANY STEEL BEAM RELOCATION WORK OVER THE RAILROAD.
17. SLOPEWALL AND PAVED DITCH SHALL BE REINFORCED WITH WELDED WIRE FABRIC, 6"x6" - W4.0xW4.0, WEIGHING 58 LBS. PER 100 SQ. FT.
18. THE BEARING SEATS AT THE ABUTMENTS SHALL HAVE BRIDGE SEAT SEALER APPLIED IN ACCORDANCE WITH THE SPECIAL PROVISIONS. EST. AREA = 398 SQ FT
19. A PROTECTIVE SHIELD SHALL BE USED TO PROTECT PEDESTRIAN, VEHICULAR, AND RAILROAD TRAFFIC FROM DAMAGE DUE TO FALLING MATERIAL AND OBJECTS DURING REMOVAL OF EXISTING CONCRETE. SEE SPECIAL PROVISIONS.
20. Prior to pouring the new concrete for the deck, all loose rust, loose mill scale, and all other foreign material shall be removed from the embedded portions of flanges of stringers. The removal shall be accomplished in accordance with the requirements of the SSPC Surface Preparation Specifications SP-11 for Power tool cleaning or SP-2 for Hand tool cleaning. Cost shall be incidental to concrete removal.
21. The first two coats of Lead and Chromate free Alkyd paint system shall be used for shop and field painting of new structural steel.
22. Structural Steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting New Steel and Adjacent Areas of Existing Steel Structures".

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER-STRUCTURE	SUB-STRUCTURE	TOTAL
Concrete Removal	Cu. Yd.	–	79.4	79.4
Expansion Bolts, 3/4" ø	Ea.	–	184	184
Removal of Exist. Conc. Deck No. 5	L. Sum	1	–	1
Removal of Exist. Conc. Deck No. 6	L. Sum	1	–	1
Structure Excavation	Cu. Yd.	–	357	357
Floor Drains	Ea.	12	–	12
Preformed Joint Seal, 4"	Lin. Ft.	204	–	204
Bridge Seat Sealer	L. Sum	–	0.28	0.28
Class X Concrete Superstructure	Cu. Yd.	723.5	–	723.5
Protective Coat ✱	Sq. Yd.	439	–	439
Class X Concrete	Cu. Yd.	–	192.3	192.3
Furn. & Erect. Struct. Steel	L. Sum	1	–	1
Stud Shear Connectors	Ea.	10,624	–	10,624
Filter Fabric for use with Riprap	Sq. Yd.	–	97	97
Jack. Existing Struct. No 5	L. Sum	1	–	1
Jack Existing Struct. No. 6	L. Sum	1	–	1
Reinforcement Bars Epoxy Coated	Lbs.	178,410	25,300	203,710
Elastomeric Bearing Assembly, Type II	Ea.	–	32	32
Test Pile, Steel HP 10X42	Ea.	–	1	1
Furnishing Stl. Piles HP 10X42	Lin. Ft.	–	45	45
Driving Steel Piles HP 10X42	Lin. Ft.	–	45	45
Caisson Shafts, 36"	Cu. Ft.	–	1816	1816
Caisson Concrete	Cu. Yd.	–	73.2	73.2
Caisson Shafts, 30"	Cu. Ft.	–	216	216
Steel Casings, 36"	Lin. Ft.	–	259	259
Temporary Sheet Piling	Sq. Ft.	–	2376	2376
Nameplates	Ea.	2	–	2
Epoxy Mortar Repair	Cu. Ft.	–	25.8	25.8
Stone Riprap, Class A2	Sq. Yd.	–	97	97
Protective Shield	Sq. Yd.	2144	–	2144
Elastomeric Bearing Assembly, Type I	Ea.	–	32	32
Bridge Deck Grooving	Sq. Yd.	2487	–	2487

✱ Includes top and inside face of parapet only.



TYPICAL SECTION THRU EAST ABUTMENT

ESCA CONSULTANTS, INC.

DESIGNED BY	RDP	1-90
DRAWN BY	WEM	1-90
CHECKED BY	JRF	1-90
APPROVED BY	RDP	1-90

GENERAL NOTES & BILL OF MATERIAL
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1) BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	***	Vermilion	165	133
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT	

***(92-11VB-1)BR

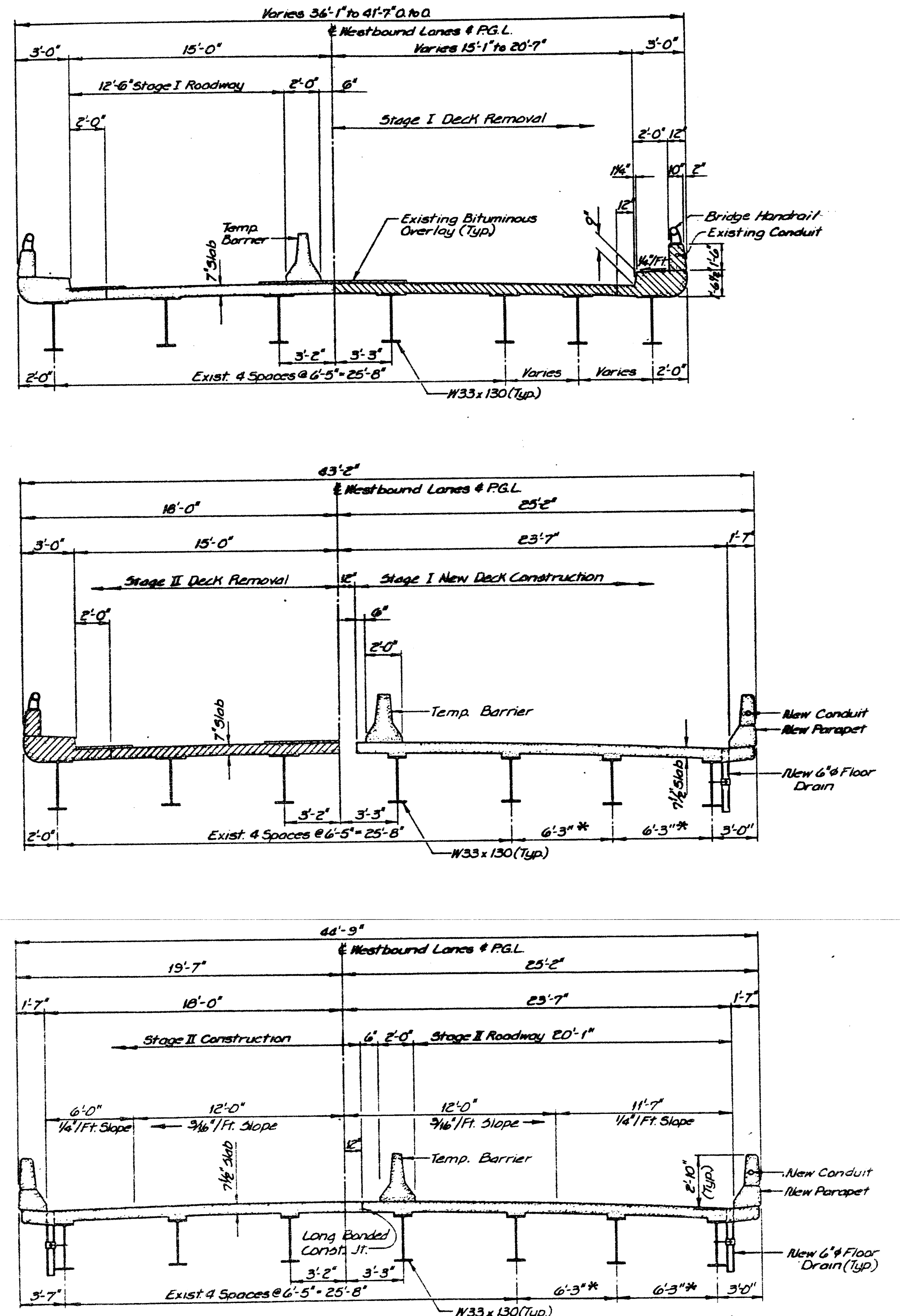
Dwg. No. 3 of 32

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Removal of Exist. Conc. Deck No. 5	L. Sum	1
Removal of Exist. Conc. Deck No. 6	L. Sum	1

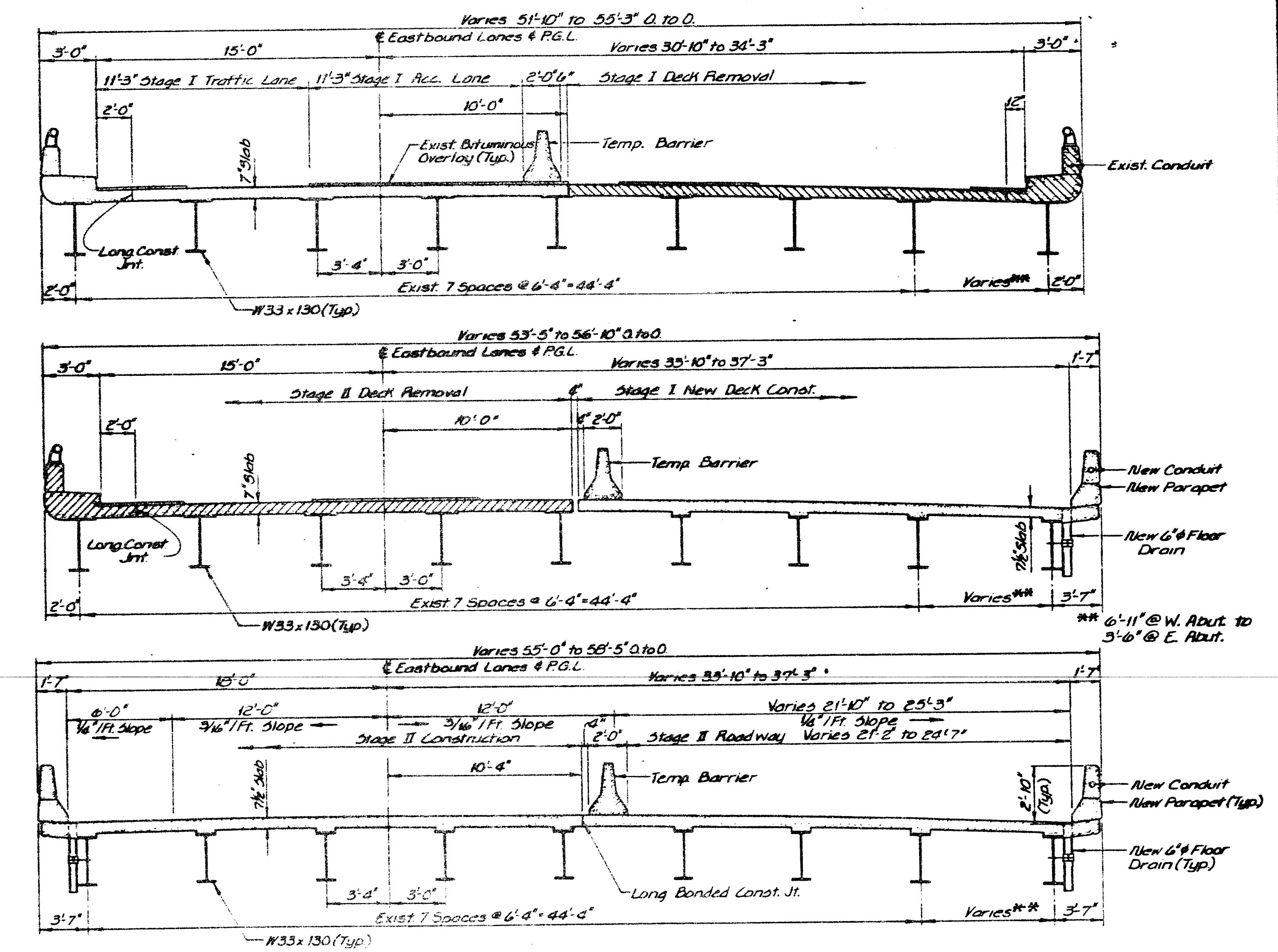
NOTES

1. HATCHED AREAS INDICATE REMOVAL OF EXISTING CONCRETE DECK.
2. FOR QUANTITIES OF TEMPORARY CONCRETE BARRIER, SEE ROADWAY PLANS.
3. SEE DWG. NO. 30 FOR DETAILS OF TEMPORARY CONCRETE BARRIER.
4. ~~Removal of Bridge Handrail is cost incidental to Removal of Existing Concrete Deck 5 & 6.~~



* Rework Existing Beams and Provide New Spacing As Shown.

CROSS SECTIONS SHOWING STAGE REMOVAL & CONST.
(WESTBOUND BRIDGE; LOOKING WEST)



CROSS SECTIONS SHOWING STAGE REMOVAL & CONST.
(EASTBOUND BRIDGE; LOOKING EAST)

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	1-90
DRAWN BY:	WEM	1-90
CHECKED BY:	JRF	1-90
APPROVED BY:	RDP	1-90

STAGE CONSTRUCTION DETAILS
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

* (92-11VB-1)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	*	Vermilion	1165	134
STA		TO STA		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

GIRDER 1

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1899+95.98	-16.0	646.045	646.045
a	1900+05.98	-16.0	645.959	645.970
b	1900+15.98	-16.0	645.873	645.890
c	1900+25.98	-16.0	645.787	645.800
d	1900+35.98	-16.0	645.701	645.705
℄ Pier 1	1900+45.98	-16.0	645.615	645.615
e	1900+55.98	-16.0	645.529	645.539
f	1900+65.98	-16.0	645.443	645.467
g	1900+75.98	-16.0	645.357	645.390
h	1900+85.98	-16.0	645.271	645.300
i	1900+95.98	-16.0	645.185	645.203
j	1901+05.98	-16.0	645.099	645.104
℄ Pier 2	1901+12.98	-16.0	645.039	645.039
k	1901+22.98	-16.0	644.953	644.962
l	1901+32.98	-16.0	644.867	644.890
m	1901+42.98	-16.0	644.781	644.813
n	1901+52.98	-16.0	644.695	644.726
o	1901+62.98	-16.0	644.609	644.629
p	1901+72.98	-16.0	644.523	644.529
℄ Pier 3	1901+79.98	-16.0	644.462	644.462
q	1901+89.98	-16.0	644.376	644.380
r	1901+99.98	-16.0	644.290	644.303
s	1902+09.98	-16.0	644.204	644.221
t	1902+19.98	-16.0	644.118	644.129
℄ Brg. E. Abut.	1902+29.98	-16.0	644.032	644.032

GIRDER 2

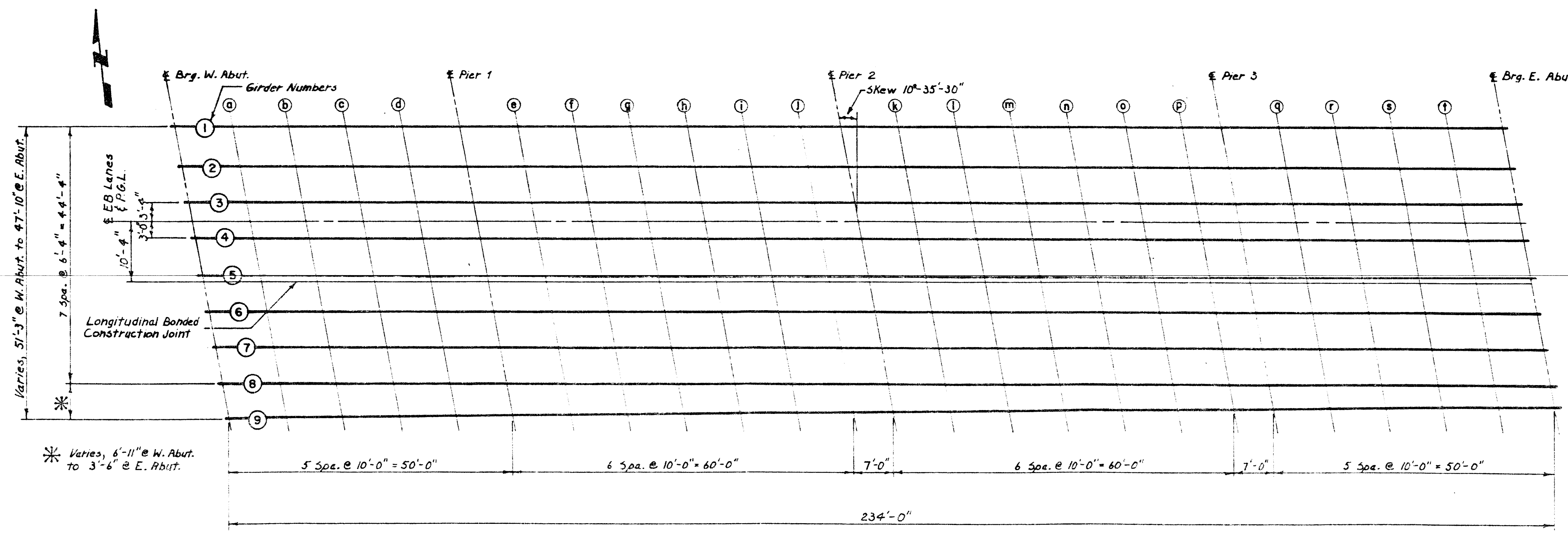
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1899+97.16	-9.667	646.154	646.154
a	1900+07.16	-9.667	646.068	646.078
b	1900+17.16	-9.667	645.982	645.997
c	1900+27.16	-9.667	645.896	645.907
d	1900+37.16	-9.667	645.810	645.813
℄ Pier 1	1900+47.16	-9.667	645.724	645.724
e	1900+57.16	-9.667	645.638	645.646
f	1900+67.16	-9.667	645.552	645.574
g	1900+77.16	-9.667	645.466	645.495
h	1900+87.16	-9.667	645.380	645.406
i	1900+97.16	-9.667	645.294	645.310
j	1901+07.16	-9.667	645.208	645.213
℄ Pier 2	1901+14.16	-9.667	645.148	645.148
k	1901+24.16	-9.667	645.062	645.069
l	1901+34.16	-9.667	644.976	644.996
m	1901+44.16	-9.667	644.890	644.918
n	1901+54.16	-9.667	644.804	644.831
o	1901+64.16	-9.667	644.718	644.735
p	1901+74.16	-9.667	644.632	644.637
℄ Pier 3	1901+81.16	-9.667	644.572	644.572
q	1901+91.16	-9.667	644.486	644.489
r	1902+01.16	-9.667	644.400	644.411
s	1902+11.16	-9.667	644.314	644.329
t	1902+21.16	-9.667	644.228	644.238
℄ Brg. E. Abut.	1902+31.16	-9.667	644.142	644.142

GIRDER 3

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1899+98.35	-3.333	646.243	646.243
a	1900+08.35	-3.333	646.157	646.167
b	1900+18.35	-3.333	646.071	646.086
c	1900+28.35	-3.333	645.985	645.996
d	1900+38.35	-3.333	645.899	645.902
℄ Pier 1	1900+48.35	-3.333	645.813	645.813
e	1900+58.35	-3.333	645.727	645.735
f	1900+68.35	-3.333	645.641	645.663
g	1900+78.35	-3.333	645.555	645.584
h	1900+88.35	-3.333	645.469	645.495
i	1900+98.35	-3.333	645.383	645.399
j	1901+08.35	-3.333	645.297	645.302
℄ Pier 2	1901+15.35	-3.333	645.237	645.237
k	1901+25.35	-3.333	645.151	645.158
l	1901+35.35	-3.333	645.065	645.085
m	1901+45.35	-3.333	644.979	645.007
n	1901+55.35	-3.333	644.893	644.920
o	1901+65.35	-3.333	644.807	644.824
p	1901+75.35	-3.333	644.721	644.726
℄ Pier 3	1901+82.35	-3.333	644.661	644.661
q	1901+92.35	-3.333	644.575	644.578
r	1902+02.35	-3.333	644.489	644.500
s	1902+12.35	-3.333	644.403	644.418
t	1902+22.35	-3.333	644.317	644.327
℄ Brg. E. Abut.	1902+32.35	-3.333	644.231	644.231

P. G. L.

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1899+98.97	0.000	646.290	646.290
a	1900+08.99	0.000	646.204	646.214
b	1900+18.97	0.000	646.118	646.133
c	1900+28.97	0.000	646.032	646.043
d	1900+38.97	0.000	645.946	645.949
℄ Pier 1	1900+48.97	0.000	645.860	645.860
e	1900+58.97	0.000	645.774	645.782
f	1900+68.97	0.000	645.668	645.710
g	1900+78.97	0.000	645.602	645.631
h	1900+88.97	0.000	645.516	645.542
i	1900+98.97	0.000	645.430	645.446
j	1901+08.97	0.000	645.344	645.349
℄ Pier 2	1901+15.97	0.000	645.284	645.284
k	1901+25.97	0.000	645.198	645.205
l	1901+35.97	0.000	645.112	645.132
m	1901+45.97	0.000	645.026	645.054
n	1901+55.97	0.000	644.940	644.967
o	1901+65.97	0.000	644.854	644.871
p	1901+75.97	0.000	644.768	644.773
℄ Pier 3	1901+82.97	0.000	644.707	644.707
q	1901+92.97	0.000	644.621	644.624
r	1902+02.97	0.000	644.535	644.546
s	1902+12.97	0.000	644.449	644.464
t	1902+22.97	0.000	644.363	644.373
℄ Brg. E. Abut.	1902+32.97	0.000	644.277	644.277



PLAN

ESCA CONSULTANTS, INC.

DESIGNED BY:	KMD	11-89
DRAWN BY:	PDV	11-89
CHECKED BY:	JAG	11-89
APPROVED BY:	RDP	11-89

TOP OF SLAB ELEVATIONS (EB)

FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

✱(92-11VB-1)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	✱	Vermilion	165	135
STA		TO STA		
FED ROAD DIST NO 7	ILLINOIS	PROJECT		

Dwg. No. 5 of 32

GIRDER 4

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1899+99.53	3.000	646.238	646.238
a	1900+09.53	3.000	646.152	646.162
b	1900+19.53	3.000	646.066	646.081
c	1900+29.53	3.000	645.980	645.991
d	1900+39.53	3.000	645.894	645.897
℄ Pier 1	1900+49.53	3.000	645.808	645.808
e	1900+59.53	3.000	645.722	645.730
f	1900+69.53	3.000	645.636	645.658
g	1900+79.53	3.000	645.550	645.579
h	1900+89.53	3.000	645.464	645.490
i	1900+99.53	3.000	645.378	645.394
j	1901+09.53	3.000	645.292	645.297
℄ Pier 2	1901+16.53	3.000	645.232	645.232
k	1901+26.53	3.000	645.146	645.153
l	1901+36.53	3.000	645.060	645.080
m	1901+46.53	3.000	644.974	645.002
n	1901+56.53	3.000	644.888	644.915
o	1901+66.53	3.000	644.802	644.819
p	1901+76.53	3.000	644.716	644.721
℄ Pier 3	1901+83.53	3.000	644.656	644.656
q	1901+93.53	3.000	644.570	644.573
r	1902+03.53	3.000	644.484	644.495
s	1902+13.53	3.000	644.398	644.413
t	1902+23.53	3.000	644.312	644.322
℄ Brg. E. Abut.	1902+33.53	3.000	644.226	644.226

GIRDER 5

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1900+00.72	9.333	646.129	646.129
a	1900+10.72	9.333	646.043	646.053
b	1900+20.72	9.333	645.957	645.972
c	1900+30.72	9.333	645.871	645.882
d	1900+40.72	9.333	645.785	645.788
℄ Pier 1	1900+50.72	9.333	645.699	645.699
e	1900+60.72	9.333	645.613	645.621
f	1900+70.72	9.333	645.527	645.549
g	1900+80.72	9.333	645.441	645.470
h	1900+90.72	9.333	645.355	645.381
i	1901+00.72	9.333	645.269	645.285
j	1901+10.72	9.333	645.183	645.188
℄ Pier 2	1901+17.72	9.333	645.123	645.123
k	1901+27.72	9.333	645.037	645.044
l	1901+37.72	9.333	644.951	644.971
m	1901+47.72	9.333	644.865	644.893
n	1901+57.72	9.333	644.779	644.806
o	1901+67.72	9.333	644.693	644.710
p	1901+77.72	9.333	644.607	644.612
℄ Pier 3	1901+84.72	9.333	644.547	644.547
q	1901+94.72	9.333	644.461	644.464
r	1902+04.72	9.333	644.375	644.386
s	1902+14.72	9.333	644.289	644.304
t	1902+24.72	9.333	644.203	644.213
℄ Brg. E. Abut.	1902+34.72	9.333	644.117	644.117

LONGITUDINAL BONDED CONSTRUCTION JOINT

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1900+00.90	10.333	646.112	646.112
a	1900+10.90	10.333	646.026	646.036
b	1900+20.90	10.333	645.940	645.955
c	1900+30.90	10.333	645.854	645.865
d	1900+40.90	10.333	645.768	645.771
℄ Pier 1	1900+50.90	10.333	645.682	645.682
e	1900+60.90	10.333	645.596	645.604
f	1900+70.90	10.333	645.510	645.532
g	1900+80.90	10.333	645.424	645.453
h	1900+90.90	10.333	645.338	645.364
i	1901+00.90	10.333	645.252	645.268
j	1901+10.90	10.333	645.166	645.171
℄ Pier 2	1901+17.90	10.333	645.106	645.106
k	1901+27.90	10.333	645.020	645.027
l	1901+37.90	10.333	644.934	644.954
m	1901+47.90	10.333	644.848	644.876
n	1901+57.90	10.333	644.762	644.789
o	1901+67.90	10.333	644.676	644.693
p	1901+77.90	10.333	644.590	644.595
℄ Pier 3	1901+84.90	10.333	644.529	644.529
q	1901+94.90	10.333	644.443	644.446
r	1902+04.90	10.333	644.357	644.368
s	1902+14.90	10.333	644.271	644.286
t	1902+24.90	10.333	644.185	644.195
℄ Brg. E. Abut.	1902+34.90	10.333	644.099	644.099

GIRDER 6

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1900+01.90	15.667	646.001	646.001
a	1900+11.90	15.667	645.915	645.925
b	1900+21.90	15.667	645.829	645.844
c	1900+31.90	15.667	645.743	645.754
d	1900+41.90	15.667	645.657	645.660
℄ Pier 1	1900+51.90	15.667	645.571	645.571
e	1900+61.90	15.667	645.485	645.493
f	1900+71.90	15.667	645.399	645.421
g	1900+81.90	15.667	645.313	645.342
h	1900+91.90	15.667	645.227	645.253
i	1901+01.90	15.667	645.141	645.157
j	1901+11.90	15.667	645.055	645.060
℄ Pier 2	1901+18.90	15.667	644.995	644.995
k	1901+28.90	15.667	644.909	644.916
l	1901+38.90	15.667	644.823	644.843
m	1901+48.90	15.667	644.737	644.765
n	1901+58.90	15.667	644.651	644.678
o	1901+68.90	15.667	644.565	644.582
p	1901+78.90	15.667	644.479	644.484
℄ Pier 3	1901+85.90	15.667	644.418	644.418
q	1901+95.90	15.667	644.332	644.335
r	1902+05.90	15.667	644.246	644.257
s	1902+15.90	15.667	644.160	644.175
t	1902+25.90	15.667	644.074	644.084
℄ Brg. E. Abut.	1902+35.90	15.667	643.988	643.988

GIRDER 7

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1900+03.08	22.000	645.859	645.859
a	1900+13.08	22.000	645.773	645.783
b	1900+23.08	22.000	645.687	645.702
c	1900+33.08	22.000	645.601	645.612
d	1900+43.08	22.000	645.515	645.518
℄ Pier 1	1900+53.08	22.000	645.429	645.429
e	1900+63.08	22.000	645.343	645.351
f	1900+73.08	22.000	645.257	645.279
g	1900+83.08	22.000	645.171	645.200
h	1900+93.08	22.000	645.085	645.111
i	1901+03.08	22.000	644.999	645.015
j	1901+13.08	22.000	644.913	644.918
℄ Pier 2	1901+20.08	22.000	644.852	644.852
k	1901+30.08	22.000	644.766	644.773
l	1901+40.08	22.000	644.680	644.700
m	1901+50.08	22.000	644.594	644.622
n	1901+60.08	22.000	644.508	644.535
o	1901+70.08	22.000	644.422	644.439
p	1901+80.08	22.000	644.336	644.341
℄ Pier 3	1901+87.08	22.000	644.276	644.276
q	1901+97.08	22.000	644.190	644.193
r	1902+07.08	22.000	644.104	644.115
s	1902+17.08	22.000	644.018	644.033
t	1902+27.08	22.000	643.932	643.942
℄ Brg. E. Abut.	1902+37.08	22.000	643.846	643.846

ESCA CONSULTANTS, INC.

DESIGNED BY:	KMD	11-89
DRAWN BY:	PDV	11-89
CHECKED BY:	JAG	11-89
APPROVED BY:	ADP	11-89

TOP OF SLAB
ELEVATIONS (EB)
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

*(92-11VB-1)BR

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	*	Vermilion	165	136
STA		TO STA		
FED ROAD DIST NO 7	ILLINOIS	PROJECT		

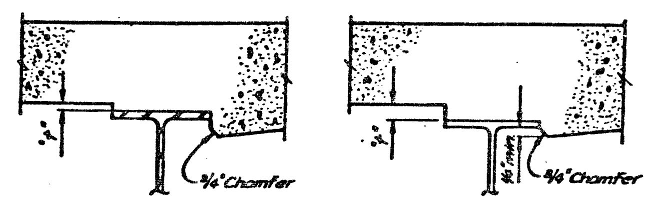
Dwg No. 6 of 32

GIRDER 8

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1900+04.27	28.333	645.717	645.717
a	1900+14.27	28.333	645.631	645.641
b	1900+24.27	28.333	645.545	645.559
c	1900+34.27	28.333	645.459	645.469
d	1900+44.27	28.333	645.373	645.376
℄ Pier 1	1900+54.27	28.333	645.287	645.287
e	1900+64.27	28.333	645.201	645.209
f	1900+74.27	28.333	645.115	645.135
g	1900+84.27	28.333	645.029	645.055
h	1900+94.27	28.333	644.943	644.966
i	1901+04.27	28.333	644.857	644.872
j	1901+14.27	28.333	644.771	644.775
℄ Pier 2	1901+21.27	28.333	644.710	644.710
k	1901+31.27	28.333	644.624	644.631
l	1901+41.27	28.333	644.538	644.557
m	1901+51.27	28.333	644.452	644.478
n	1901+61.27	28.333	644.366	644.391
o	1901+71.27	28.333	644.280	644.296
p	1901+81.27	28.333	644.194	644.199
℄ Pier 3	1901+88.27	28.333	644.134	644.134
q	1901+98.27	28.333	644.048	644.051
r	1902+08.27	28.333	643.962	643.972
s	1902+18.27	28.333	643.876	643.890
t	1902+28.27	28.333	643.790	643.800
℄ Brg. E. Abut.	1902+38.27	28.333	643.704	643.704

GIRDER 9

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1900+05.56	35.250	645.561	645.561
a	1900+15.53	35.104	645.479	645.490
b	1900+25.51	34.958	645.396	645.412
c	1900+35.48	34.812	645.313	645.325
d	1900+45.45	34.666	645.230	645.234
℄ Pier 1	1900+55.42	34.520	645.148	645.148
e	1900+65.40	34.374	645.065	645.074
f	1900+75.37	34.228	644.982	645.005
g	1900+85.34	34.082	644.900	644.930
h	1900+95.32	33.936	644.817	644.845
i	1901+05.29	33.790	644.734	644.751
j	1901+15.26	33.644	644.651	644.656
℄ Pier 2	1901+22.24	33.542	644.593	644.593
k	1901+32.21	33.396	644.511	644.519
l	1901+42.19	33.250	644.428	644.449
m	1901+52.16	33.104	644.345	644.375
n	1901+62.13	32.958	644.263	644.292
o	1901+72.11	32.812	644.180	644.199
p	1901+82.08	32.666	644.097	644.103
℄ Pier 3	1901+89.06	32.563	644.039	644.039
q	1901+99.03	32.417	643.956	643.960
r	1902+09.00	32.271	643.874	643.886
s	1902+18.98	32.125	643.791	643.807
t	1902+28.95	31.979	643.708	643.719
℄ Brg. E. Abut.	1902+38.92	31.833	643.626	643.626



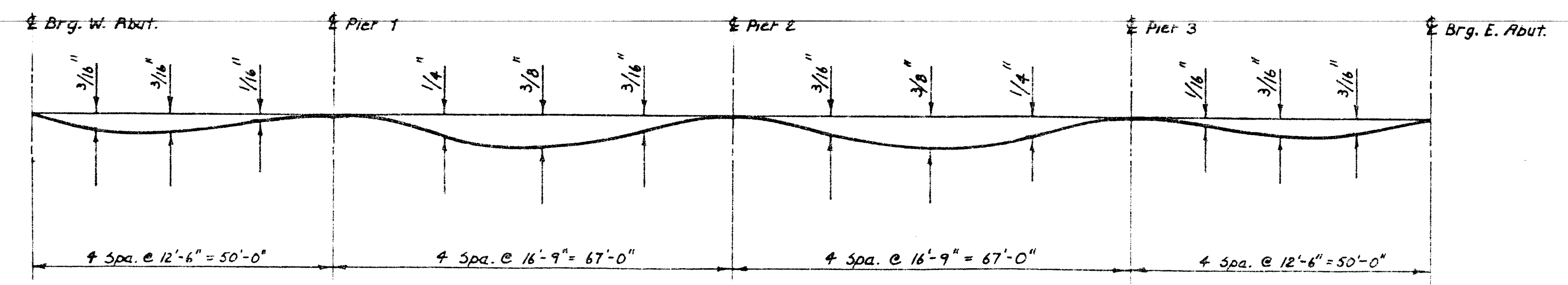
AT MINIMUM FILLET

AT MAXIMUM FILLET

FILLET HEIGHTS

TO DETERMINE "t":

AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT INTERVALS SHOWN ON DWG. NO. 4. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION" SHOWN IN THE TABLES, MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "t" ABOVE TOP FLANGE OF BEAMS.



NOTE: THE ABOVE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS AS SHOWN ON DWGS. 4 THRU 6.

DEAD LOAD DEFLECTION DIAGRAM

(INCLUDES WEIGHT OF CONCRETE ONLY)

ESCA
CONSULTANTS, INC.

DESIGNED BY:	KMD	11-89
DRAWN BY:	PDV	11-89
CHECKED BY:	JAG	11-89
APPROVED BY:	RDP	11-89

TOP OF SLAB ELEVATIONS (EB)

FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

GIRDER 10

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1899+82.85	-22.17	646.029	646.029
a	1899+92.85	-22.17	645.943	645.954
b	1900+02.85	-22.17	645.857	645.872
c	1900+12.85	-22.17	645.771	645.783
d	1900+22.85	-22.17	645.685	645.689
℄ Pier 1	1900+32.85	-22.17	645.599	645.599
e	1900+42.85	-22.17	645.513	645.523
f	1900+52.85	-22.17	645.427	645.450
g	1900+62.85	-22.17	645.341	645.371
h	1900+72.85	-22.17	645.255	645.283
i	1900+82.85	-22.17	645.169	645.186
j	1900+92.85	-22.17	645.083	645.088
℄ Pier 2	1900+99.85	-22.17	645.023	645.023
k	1901+09.85	-22.17	644.937	644.945
l	1901+19.85	-22.17	644.851	644.872
m	1901+29.85	-22.17	644.765	644.795
n	1901+39.85	-22.17	644.679	644.707
o	1901+49.85	-22.17	644.593	644.612
p	1901+59.85	-22.17	644.507	644.513
℄ Pier 3	1901+66.85	-22.17	644.447	644.447
q	1901+76.85	-22.17	644.361	644.365
r	1901+86.85	-22.17	644.275	644.287
s	1901+96.85	-22.17	644.189	644.204
t	1902+06.85	-22.17	644.103	644.114
℄ Brg. E. Abut.	1902+16.85	-22.17	644.017	644.017

GIRDER 11

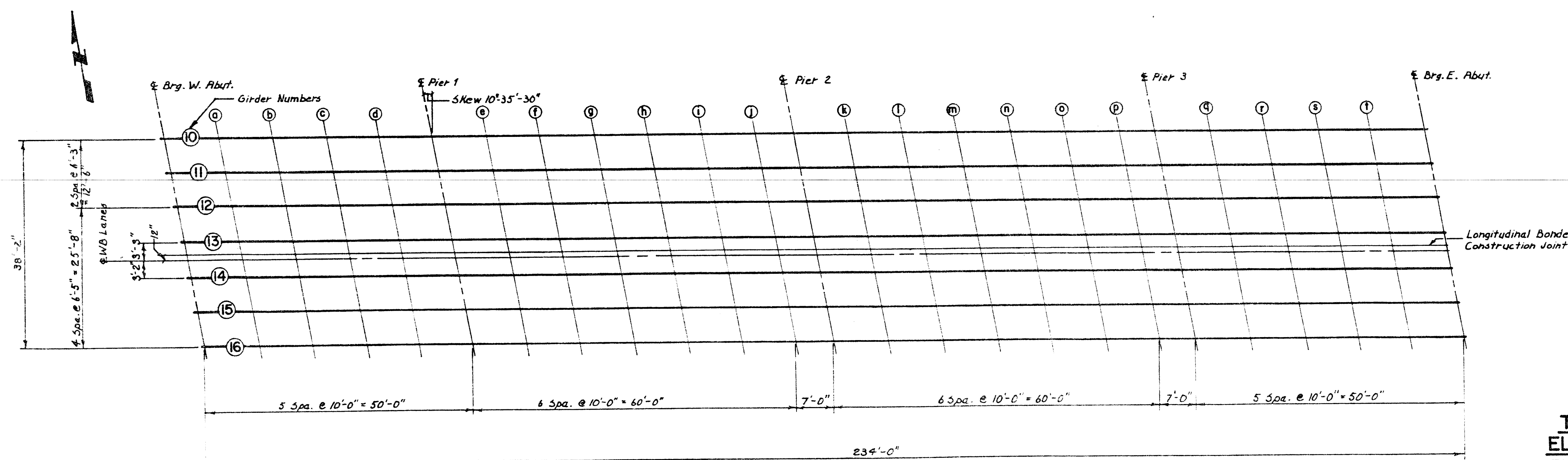
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1899+84.02	-15.92	646.149	646.149
a	1899+94.02	-15.92	646.063	646.073
b	1900+04.02	-15.92	645.977	645.992
c	1900+14.02	-15.92	645.891	645.903
d	1900+24.02	-15.92	645.805	645.809
℄ Pier 1	1900+34.02	-15.92	645.719	645.719
e	1900+44.02	-15.92	645.633	645.642
f	1900+54.02	-15.92	645.547	645.569
g	1900+64.02	-15.92	645.461	645.490
h	1900+74.02	-15.92	645.375	645.401
i	1900+84.02	-15.92	645.289	645.305
j	1900+94.02	-15.92	645.203	645.208
℄ Pier 2	1901+01.02	-15.92	645.143	645.143
k	1901+11.02	-15.92	645.057	645.064
l	1901+21.01	-15.92	644.971	644.991
m	1901+31.02	-15.92	644.885	644.914
n	1901+41.02	-15.92	644.799	644.826
o	1901+51.02	-15.92	644.713	644.731
p	1901+61.02	-15.92	644.627	644.632
℄ Pier 3	1901+68.02	-15.92	644.567	644.567
q	1901+78.02	-15.92	644.481	644.485
r	1901+88.02	-15.92	644.395	644.407
s	1901+98.02	-15.92	644.309	644.324
t	1902+08.02	-15.92	644.223	644.233
℄ Brg. E. Abut.	1902+18.02	-15.92	644.137	644.137

GIRDER 12

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1899+85.19	-9.67	646.257	646.257
a	1899+95.19	-9.67	646.171	646.181
b	1900+05.19	-9.67	646.085	646.100
c	1900+15.19	-9.67	645.999	646.011
d	1900+25.19	-9.67	645.913	645.917
℄ Pier 1	1900+35.19	-9.67	645.827	645.827
e	1900+45.19	-9.67	645.741	645.750
f	1900+55.19	-9.67	645.655	645.677
g	1900+65.19	-9.67	645.569	645.598
h	1900+75.19	-9.67	645.483	645.510
i	1900+85.19	-9.67	645.397	645.413
j	1900+95.19	-9.67	645.311	645.316
℄ Pier 2	1901+02.19	-9.67	645.251	645.251
k	1901+12.19	-9.67	645.165	645.172
l	1901+22.19	-9.67	645.079	645.099
m	1901+32.19	-9.67	644.993	645.022
n	1901+42.19	-9.67	644.907	644.934
o	1901+52.19	-9.67	644.821	644.829
p	1901+62.19	-9.67	644.735	644.740
℄ Pier 3	1901+69.19	-9.67	644.675	644.675
q	1901+79.19	-9.67	644.589	644.593
r	1901+89.19	-9.67	644.503	644.515
s	1901+99.19	-9.67	644.417	644.432
t	1902+09.19	-9.67	644.331	644.341
℄ Brg. E. Abut.	1902+19.19	-9.67	644.245	644.245

GIRDER 13

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1899+86.39	-3.25	646.347	646.347
a	1899+96.39	-3.25	646.261	646.271
b	1900+06.39	-3.25	646.175	646.190
c	1900+16.39	-3.25	646.089	646.101
d	1900+26.39	-3.25	646.003	646.007
℄ Pier 1	1900+36.39	-3.25	645.917	645.917
e	1900+46.39	-3.25	645.831	645.840
f	1900+56.39	-3.25	645.745	645.767
g	1900+66.39	-3.25	645.659	645.688
h	1900+76.39	-3.25	645.573	645.600
i	1900+86.39	-3.25	645.487	645.504
j	1900+96.39	-3.25	645.401	645.406
℄ Pier 2	1901+03.39	-3.25	645.341	645.341
k	1901+13.39	-3.25	645.255	645.262
l	1901+23.39	-3.25	645.169	645.189
m	1901+33.39	-3.25	645.083	645.112
n	1901+43.39	-3.25	644.997	645.024
o	1901+53.39	-3.25	644.911	644.930
p	1901+63.39	-3.25	644.825	644.830
℄ Pier 3	1901+70.39	-3.25	644.765	644.765
q	1901+80.39	-3.25	644.679	644.683
r	1901+90.39	-3.25	644.593	644.603
s	1902+00.39	-3.25	644.507	644.522
t	1902+10.39	-3.25	644.421	644.431
℄ Brg. E. Abut.	1902+20.39	-3.25	644.335	644.335



PLAN

ESCA CONSULTANTS, INC.

DESIGNED BY:	KHD	11-89
DRAWN BY:	PDV	11-89
CHECKED BY:	JAG	11-89
APPROVED BY:	RDP	11-89

TOP OF SLAB ELEVATIONS (WB)

FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

LONGITUDINAL BONDED CONSTRUCTION JOINT

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1899+86.81	-1.0	646.379	646.379
a	1899+96.81	-1.0	646.293	646.303
b	1900+06.81	-1.0	646.207	646.222
c	1900+16.81	-1.0	646.121	646.133
d	1900+26.81	-1.0	646.035	646.039
℄ Pier 1	1900+36.81	-1.0	645.949	645.949
e	1900+46.81	-1.0	645.863	645.872
f	1900+56.81	-1.0	645.777	645.799
g	1900+66.81	-1.0	645.691	645.720
h	1900+76.81	-1.0	645.605	645.632
i	1900+86.81	-1.0	645.519	645.536
j	1900+96.81	-1.0	645.433	645.438
℄ Pier 2	1901+03.81	-1.0	645.373	645.373
k	1901+13.81	-1.0	645.287	645.294
l	1901+23.81	-1.0	645.201	645.221
m	1901+33.81	-1.0	645.115	645.144
n	1901+43.81	-1.0	645.029	645.056
o	1901+53.81	-1.0	644.943	644.962
p	1901+63.81	-1.0	644.857	644.862
℄ Pier 3	1901+70.91	-1.0	644.796	644.796
q	1901+80.81	-1.0	644.710	644.714
r	1901+90.81	-1.0	644.624	644.636
s	1902+00.81	-1.0	644.538	644.553
t	1902+10.81	-1.0	644.452	644.462
℄ Brg. E. Abut.	1902+20.81	-1.0	644.366	644.366

P.G.L.

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1899+87.00	0.00	646.393	646.393
a	1899+97.00	0.00	646.307	646.317
b	1900+07.00	0.00	646.221	646.236
c	1900+17.00	0.00	646.135	646.147
d	1900+27.00	0.00	646.049	646.053
℄ Pier 1	1900+37.00	0.00	645.963	645.963
e	1900+47.00	0.00	645.877	645.886
f	1900+57.00	0.00	645.791	645.813
g	1900+67.00	0.00	645.705	645.734
h	1900+77.00	0.00	645.619	645.646
i	1900+87.00	0.00	645.533	645.550
j	1900+97.00	0.00	645.447	645.452
℄ Pier 2	1901+04.00	0.00	645.387	645.387
k	1901+14.00	0.00	645.301	645.308
l	1901+24.00	0.00	645.215	645.235
m	1901+34.00	0.00	645.129	645.158
n	1901+44.00	0.00	645.043	645.070
o	1901+54.00	0.00	644.957	644.976
p	1901+64.00	0.00	644.871	644.876
℄ Pier 3	1901+71.00	0.00	644.810	644.810
q	1901+81.00	0.00	644.724	644.728
r	1901+91.00	0.00	644.638	644.650
s	1902+01.00	0.00	644.552	644.567
t	1902+11.00	0.00	644.466	644.476
℄ Brg. E. Abut.	1902+21.00	0.00	644.380	644.380

GIRDER 14

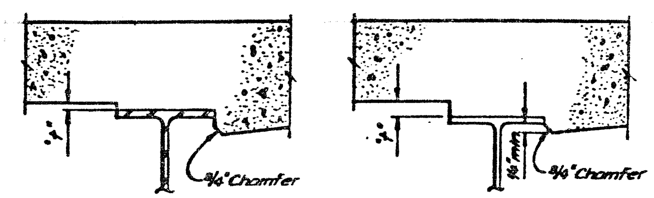
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Aut.	1899+87.59	3.17	646.338	646.338
a	1899+97.59	3.17	646.252	646.262
b	1900+07.59	3.17	646.166	646.181
c	1900+17.59	3.17	646.080	646.092
d	1900+27.59	3.17	645.994	645.998
℄ Pier 1	1900+37.59	3.17	645.908	645.908
e	1900+47.59	3.17	645.822	645.831
f	1900+57.59	3.17	645.736	645.758
g	1900+67.59	3.17	645.650	645.679
h	1900+77.59	3.17	645.564	645.591
i	1900+87.59	3.17	645.478	645.495
j	1900+97.59	3.17	645.392	645.397
℄ Pier 2	1901+04.59	3.17	645.332	645.332
k	1901+14.59	3.17	645.246	645.253
l	1901+24.59	3.17	645.160	645.180
m	1901+34.59	3.17	645.074	645.103
n	1901+44.59	3.17	644.988	645.015
o	1901+54.59	3.17	644.902	644.921
p	1901+64.59	3.17	644.816	644.821
℄ Pier 3	1901+71.59	3.17	644.756	644.756
q	1901+81.59	3.17	644.670	644.674
r	1901+91.59	3.17	644.584	644.596
s	1902+01.59	3.17	644.498	644.513
t	1902+11.59	3.17	644.412	644.422
℄ Brg. E. Abut.	1902+21.59	3.17	644.326	644.326

GIRDER 15

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Aut.	1899+88.79	9.58	646.228	646.228
a	1899+98.79	9.58	646.142	646.152
b	1900+08.79	9.58	646.056	646.071
c	1900+18.79	9.58	645.970	645.982
d	1900+28.79	9.58	645.884	645.888
℄ Pier 1	1900+38.79	9.58	645.798	645.798
e	1900+48.79	9.58	645.712	645.721
f	1900+58.79	9.58	645.626	645.648
g	1900+68.79	9.58	645.540	645.569
h	1900+78.79	9.58	645.454	645.481
i	1900+88.79	9.58	645.368	645.385
j	1900+98.79	9.58	645.282	645.287
℄ Pier 2	1901+05.79	9.58	645.221	645.221
k	1901+15.79	9.58	645.135	645.142
l	1901+25.79	9.58	645.049	645.069
m	1901+35.79	9.58	644.963	644.992
n	1901+45.79	9.58	644.877	644.904
o	1901+55.79	9.58	644.791	644.810
p	1901+65.79	9.58	644.705	644.710
℄ Pier 3	1901+72.79	9.58	644.645	644.645
q	1901+82.79	9.58	644.559	644.563
r	1901+92.79	9.58	644.473	644.485
s	1902+02.79	9.58	644.387	644.402
t	1902+12.79	9.58	644.301	644.311
℄ Brg E. Abut.	1902+22.79	9.58	644.215	644.215

GIRDER 16

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
℄ Brg. W. Abut.	1899+89.99	16.00	646.096	646.096
a	1899+99.99	16.00	646.010	646.022
b	1899+09.99	16.00	645.924	645.941
c	1899+19.99	16.00	645.838	645.852
d	1899+29.99	16.00	645.752	645.756
℄ Pier 1	1899+39.99	16.00	645.666	645.666
e	1899+49.99	16.00	645.580	645.591
f	1899+59.99	16.00	645.494	645.519
g	1899+69.99	16.00	645.408	645.442
h	1899+79.99	16.00	645.322	645.352
i	1899+89.99	16.00	645.236	645.255
j	1899+99.99	16.00	645.150	645.155
℄ Pier 2	1900+06.99	16.00	645.090	645.090
k	1900+16.99	16.00	645.004	645.013
l	1900+26.99	16.00	644.918	644.941
m	1900+36.99	16.00	644.832	644.865
n	1900+46.99	16.00	644.746	644.778
o	1900+56.99	16.00	644.660	644.681
p	1900+66.99	16.00	644.574	644.580
℄ Pier 3	1900+73.99	16.00	644.514	644.514
q	1900+83.99	16.00	644.428	644.432
r	1900+93.99	16.00	644.342	644.356
s	1901+03.99	16.00	644.256	644.273
t	1901+13.99	16.00	644.170	644.182
℄ Brg. E. ABut.	1901+23.99	16.00	644.084	644.084



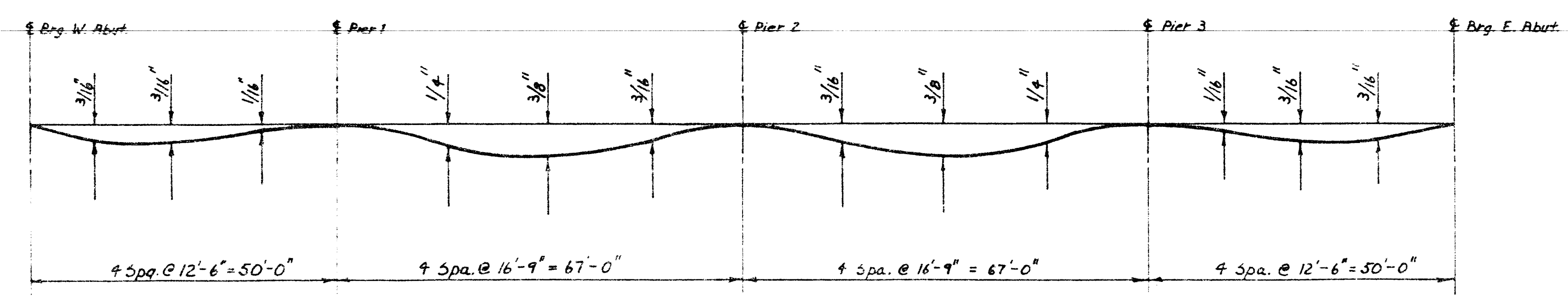
AT MINIMUM FILLET

AT MAXIMUM FILLET

FILLET HEIGHTS

TO DETERMINE "t":

AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT INTERVALS SHOWN ON DWG. NO. 7. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION" SHOWN IN THE TABLES, MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "t" ABOVE TOP FLANGE OF BEAMS.



NOTE: THE ABOVE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS AS SHOWN ON DWGS. 7 & 8.

DEAD LOAD DEFLECTION DIAGRAM

(INCLUDES WEIGHT OF CONCRETE ONLY)

ESCA CONSULTANTS, INC.

DESIGNED BY:	KMD	11-89
DRAWN BY:	PDV	11-89
CHECKED BY:	JAG	11-89
APPROVED BY:	RDP	11-89

TOP OF SLAB ELEVATIONS (WB)

FAI 74 OVER CONRAIL

FAI RTE. 74 SECTION (92-11VB-1)BR

VERMILION COUNTY

STATION 1900+80.59

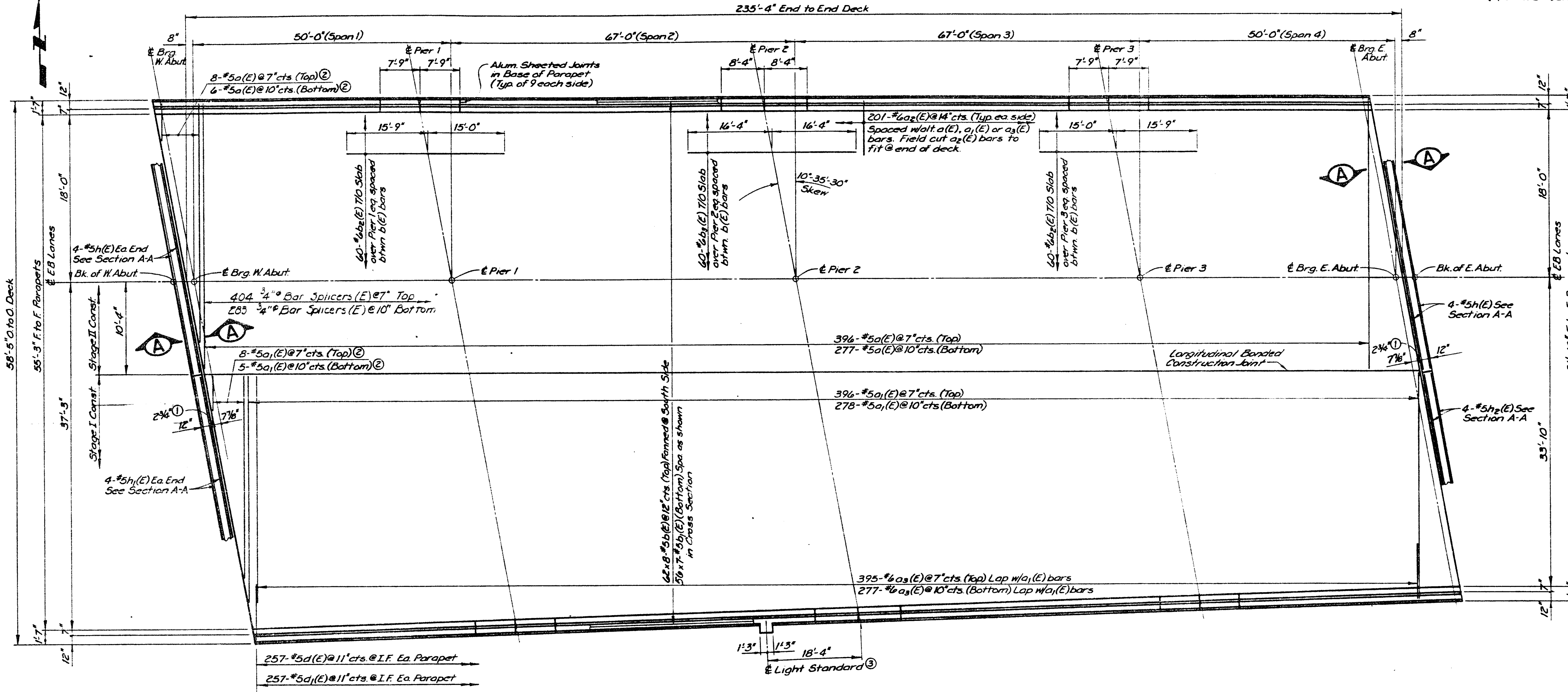
STRUCTURE NO. 092-0012 (WB)

STRUCTURE NO. 092-0013 (EB)

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI-74	*	Vermilion	165	139
STA	TO STA			
FED ROAD DIST NO 7	ILLINOIS	PROJECT		

Dwg. No. 9 of 32

* (92-11VB-1) BR



① @ 50°F

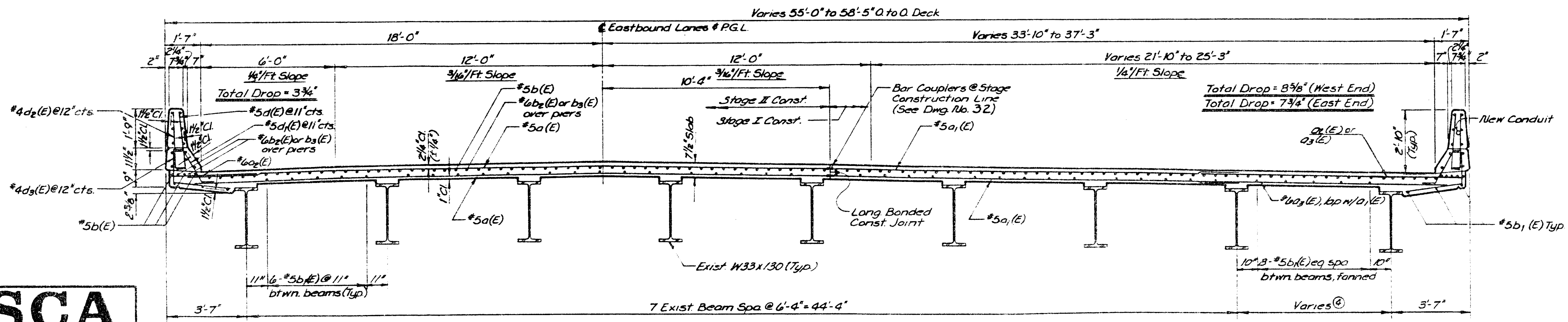
② Order a(E) & a1(E) bars full length. Field cut to fit skew & use remainder in opposite end of deck.

③ See Dwg. No. 12 for details of Light Standard.

MIN. BAR LAP

#5	2'-2"
#6	2'-7"

PLAN



CROSS SECTION
(LOOKING EAST)

④ 6'-11" @ W. Abut. to 3'-6" @ E. Abut.

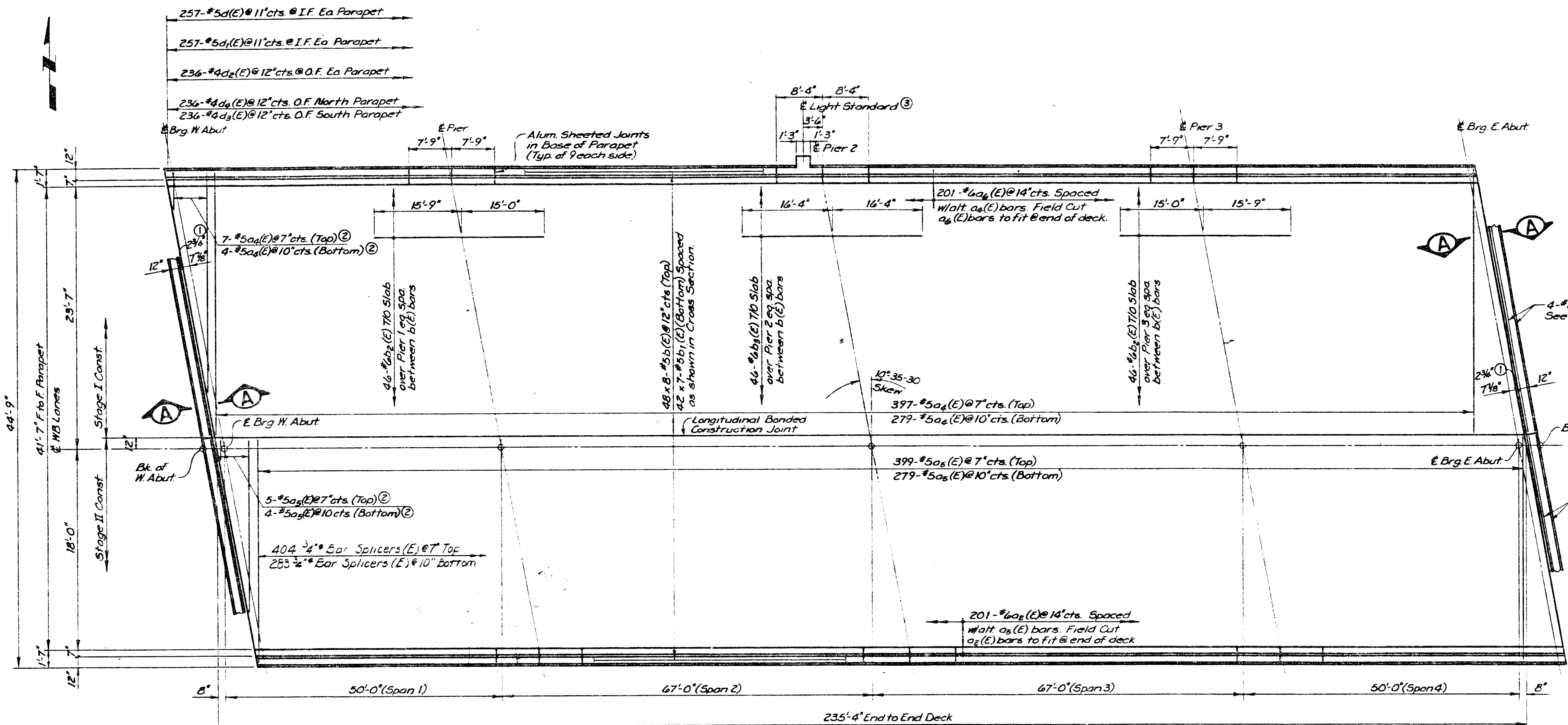
NOTES

1. SEE DWG. NO. 11 FOR SECTION A-A.
2. BARS INDICATED THUS: 62x8-#5b(E), ETC., INDICATES 62 LINES OF BARS WITH 8 LENGTHS PER LINE.
3. BARS DESIGNATED (E) SHALL BE EPOXY COATED.
4. SEE DWG. NO. 12 FOR DETAILS OF LIGHT STANDARD.
5. ONLY ALUMINUM SHEETED JOINTS IN PARAPETS ARE SHOWN ON THIS DWG. LOCATIONS OF ALL OTHER PARAPET JOINTS ARE SHOWN ON DWG. NO. 11.
6. REINFORCEMENT BARS AND BAR SPLICERS AT STAGE LINE SHALL BE TIED WITH DOUBLE THE AMOUNT OF TIES NORMALLY USED.

ESCA CONSULTANTS, INC.

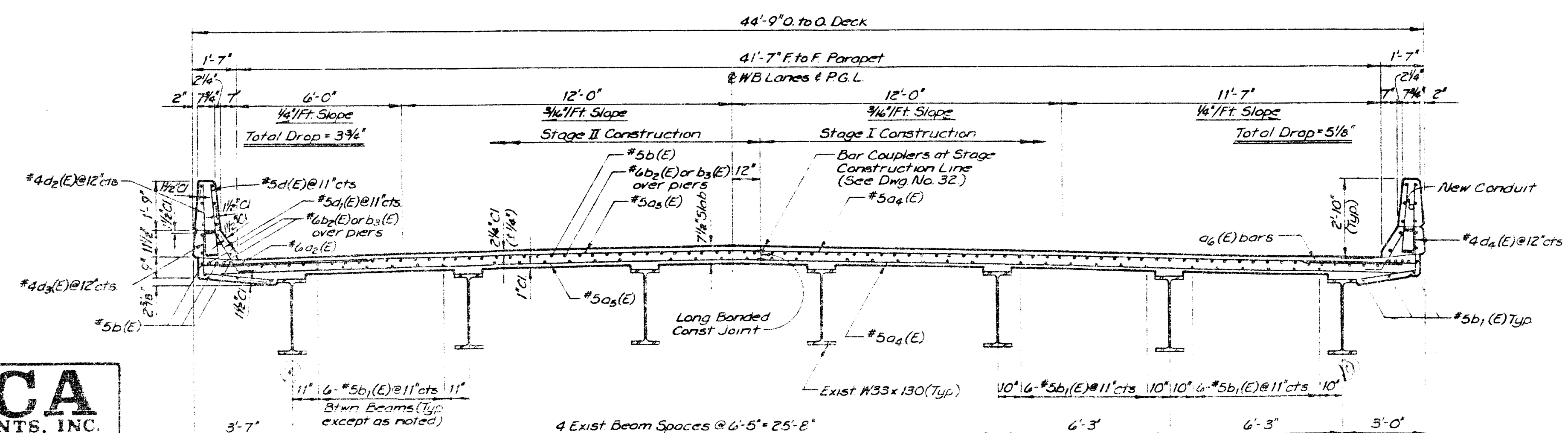
DESIGNED BY:	KMR	1-90
DRAWN BY:	WEM	1-90
CHECKED BY:	RDP	2-90
APPROVED BY:	RDP	3-90

SUPERSTRUCTURE (EB)
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1) BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)



① @ 50°F
② Order a6(E) & a5(E) bars full length. Field cut to fit skew & use remainder of bars in opposite end of span.
③ See Dwg. No. 12 for details of Light Standard.

PLAN



CROSS SECTION
(LOOKING WEST)

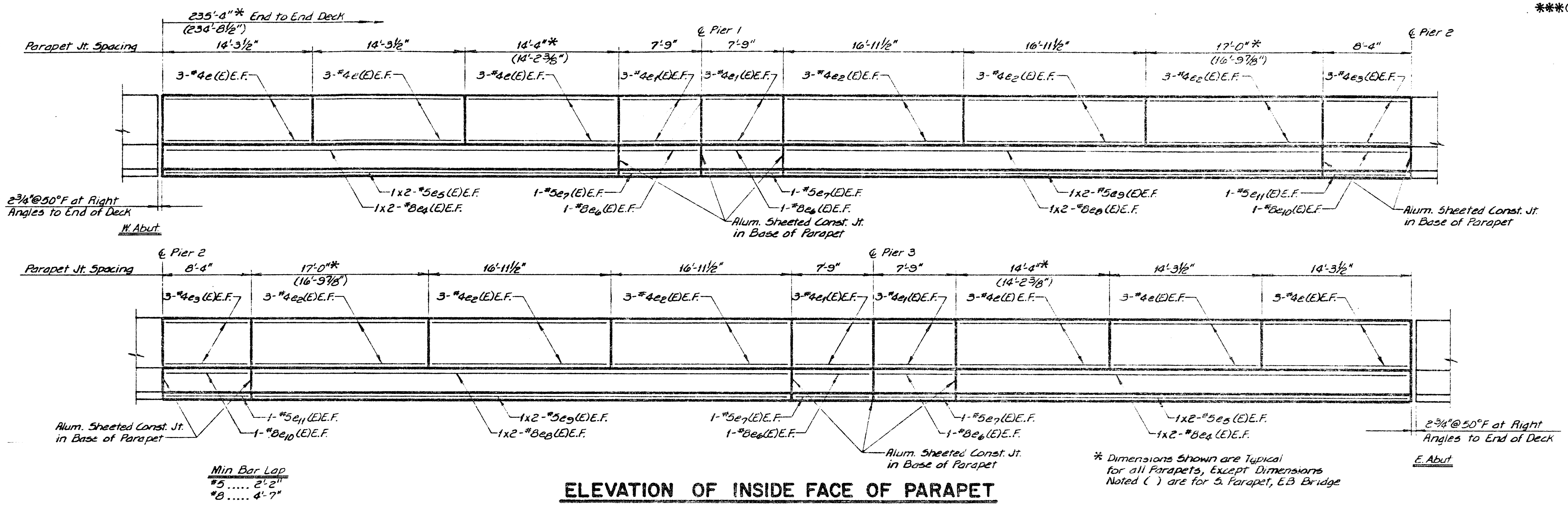
NOTES

1. SEE DWG. NO. 11 FOR SECTION A-A.
2. BARS INDICATED THUS: 48x8-#5b3, ETC., INDICATES 48 LINES OF BARS WITH 8 LENGTHS PER LINE.
3. BARS DESIGNATED (E) SHALL BE EPOXY COATED.
4. SEE DWG. NO. 12 FOR DETAILS OF LIGHT STANDARD.
5. ONLY ALUMINUM SHEETED JOINTS IN PARAPET ARE SHOWN ON THIS DWG. LOCATIONS OF ALL OTHER PARAPET JOINTS ARE SHOWN ON DWG. NO. 11.
6. REINFORCEMENT BARS AND BAR SPLICERS AT STAGE LINE SHALL BE TIED WITH DOUBLE THE AMOUNT OF TIES NORMALLY USED.

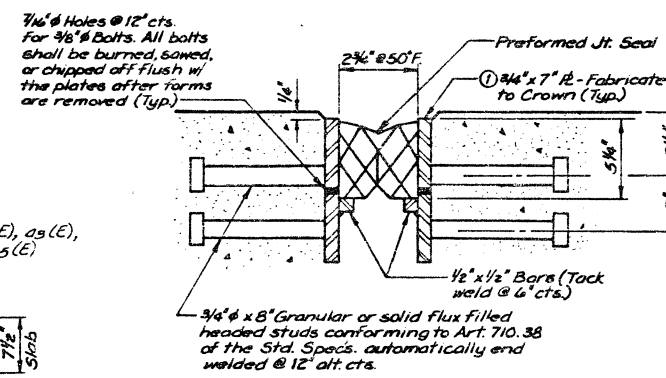
ESCA CONSULTANTS, INC.

DESIGNED BY:	KMR	12-90
DRAWN BY:	WEM	12-90
CHECKED BY:	RDP	12-90
APPROVED BY:	RDP	12-90

SUPERSTRUCTURE (WB)
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1) BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

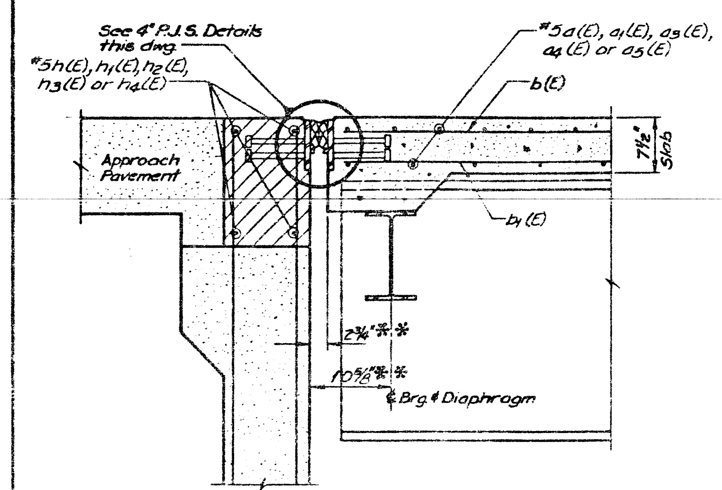


ELEVATION OF INSIDE FACE OF PARAPET



TYPICAL SECTION

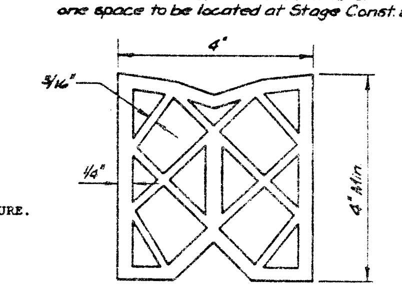
① Furnish in segments of 20 ft maximum length. Maximum space between installed segments shall be 1/16". Seal space with Silicone Sealant suitable for Structural Steel. Centerline of one space to be located at Stage Const. Line.



SECTION A-A

NOTE:

HATCHED AREAS TO BE POURED AFTER SUPERSTRUCTURE FORMS HAVE BEEN REMOVED. QUANTITY OF CLASS X CONCRETE INCLUDED WITH SUPERSTRUCTURE.



4" P.J.S. DETAILS

*** Includes top and inside face of parapet only.

BILL OF MATERIAL (W.B. BRIDGE)

BAR	NO.	SIZE	LENGTH	SHAPE
a_2(E)	201	#6	6'-0"	—
a_4(E)	687	#5	23'-2"	—
a_5(E)	687	#5	19'-7"	—
a_6(E)	201	#6	4'-0"	—
b(E)	384	#5	33'-5"	—
b_2(E)	92	#6	30'-9"	—
b_3(E)	46	#6	32'-8"	—
b_1(E)	294	#5	36'-5"	—
d(E)	514	#5	3'-0"	L
d_1(E)	514	#5	2'-7"	⌐
d_2(E)	472	#4	3'-0"	L
d_3(E)	236	#4	4'-4"	L
d_4(E)	236	#4	3'-10"	L
d_5(E)	5	#6	8'-11"	⊔
d_6(E)	3	#6	4'-5"	L
e(E)	72	#4	13'-11"	—
e_1(E)	48	#4	7'-6"	—
e_2(E)	72	#4	16'-7"	—
e_3(E)	24	#4	8'-1"	—
e_4(E)	16	#8	24'-9"	—
e_5(E)	16	#5	23'-0"	—
e_6(E)	16	#8	7'-6"	—
e_7(E)	16	#5	7'-6"	—
e_8(E)	16	#8	28'-9"	—
e_9(E)	16	#5	27'-0"	—
e_{10}(E)	8	#8	8'-1"	—
e_{11}(E)	8	#5	8'-1"	—

	ITEM	UNIT	QUANTITY
	Class X Conc. Superstructure	Cu. Yds.	327.9
	Reinf. Bars (Epoxy Coated)	Lbs.	75,660
	P.J.S. 4"	Lin. Ft.	90
	Floor Drains	Each	6
***	Protective Coat	Sq. Yds.	217

BILL OF MATERIAL (E.B. BRIDGE)

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	687	#5	28'-11"	—
a_1(E)	687	#5	18'-6"	—
a_2(E)	402	#6	6'-0"	—
a_3(E)	672	#6	13'-4"	—
b(E)	496	#5	33'-5"	—
b_1(E)	392	#5	36'-5"	—
b_2(E)	120	#6	30'-9"	—
b_3(E)	60	#6	32'-8"	—
d(E)	514	#5	3'-0"	L
d_1(E)	514	#5	2'-7"	⌐
d_2(E)	472	#4	3'-0"	L
d_3(E)	472	#4	4'-4"	L
d_5(E)	5	#6	8'-11"	⊔
d_6(E)	3	#6	4'-5"	L
e(E)	72	#4	13'-11"	—
e_1(E)	48	#4	7'-6"	—
e_2(E)	72	#4	16'-7"	—
e_3(E)	24	#4	8'-1"	—
e_4(E)	16	#8	24'-9"	—
e_5(E)	16	#5	23'-0"	—
e_6(E)	16	#8	7'-6"	—
e_7(E)	16	#5	7'-6"	—
e_8(E)	16	#8	28'-9"	—
e_9(E)	16	#5	27'-0"	—
e_{10}(E)	8	#8	8'-1"	—
e_{11}(E)	8	#5	8'-1"	—

	ITEM	UNIT	QUANTITY
	Class X Conc. Superstructure	Cu. Yds.	395.6
	Reinf. Bars (Epoxy Coated)	Lbs.	102,750
	P.J.S. 4"	Lin. Ft.	114
	Floor Drains	Each	6
***	Protective Coat	Sq. Yds.	222

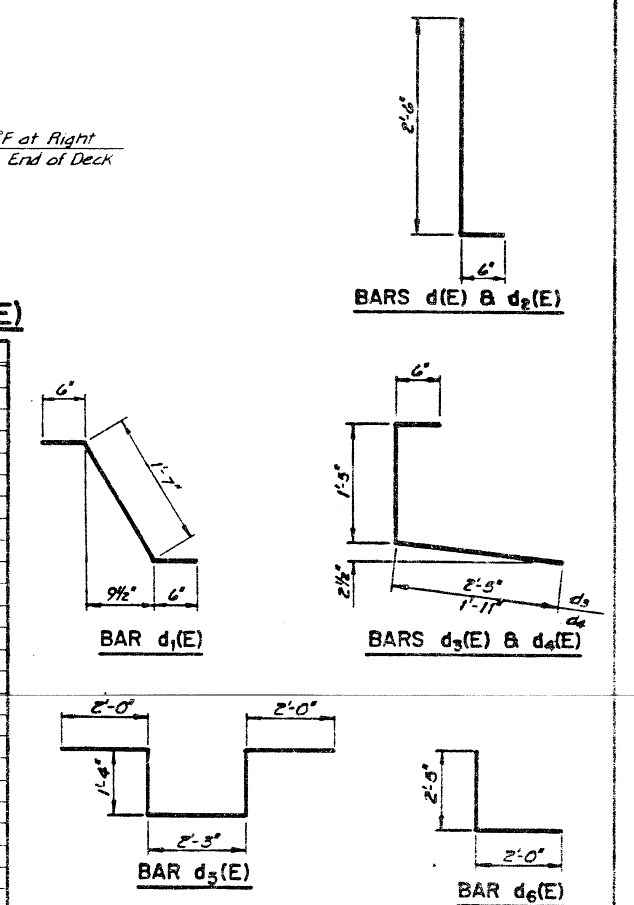
***(92-11VB-1)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	***	Vermilion	165	141
STA		TO STA		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

Dwg. No. 11 of 32

NOTES

1. BARS INDICATED THUS: $1x2-\#8e_8$(E), ETC. INDICATES 1 LINE OF BARS WITH 2 LENGTHS PER LINE.
2. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
3. EXISTING AND NEW NAME PLATES TO BE MOUNTED ON NEW PARAPETS. SEE DWG. NO. 1 AND STANDARD 2113.



BAR BENDING DETAILS

SUPERSTRUCTURE DETAILS

FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION(92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012(WB)
STRUCTURE NO. 092-0013(EB)

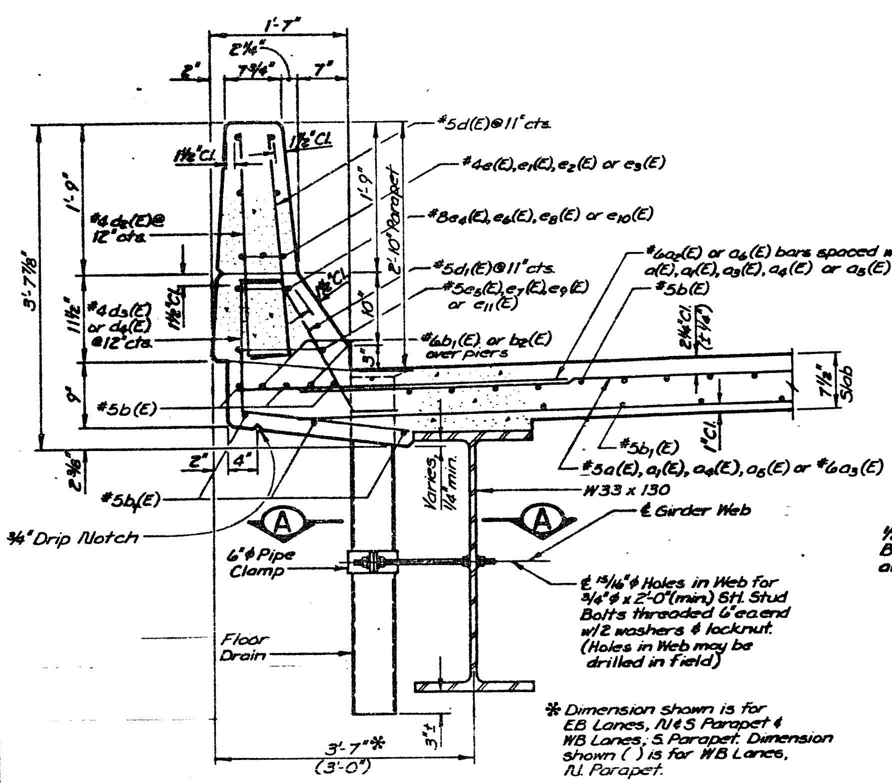
ESCA CONSULTANTS, INC.

DESIGNED BY:	KMR	2-90
DRAWN BY:	GGB	2-90
CHECKED BY:	RDP	2-90
APPROVED BY:	RDP	2-90

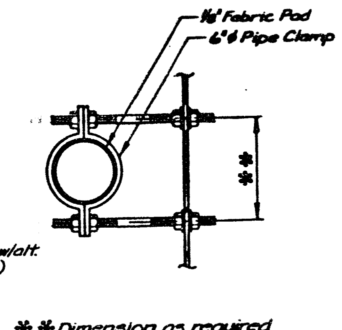
***(92-11VB-1)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	***	Vermilion	165	142
STA		TO STA		
FED ROAD DIST NO. 7	ILLINOIS	PROJECT		

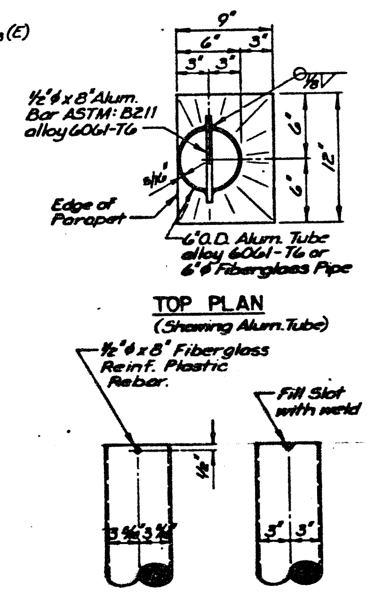
Dwg. No. 12 of 32



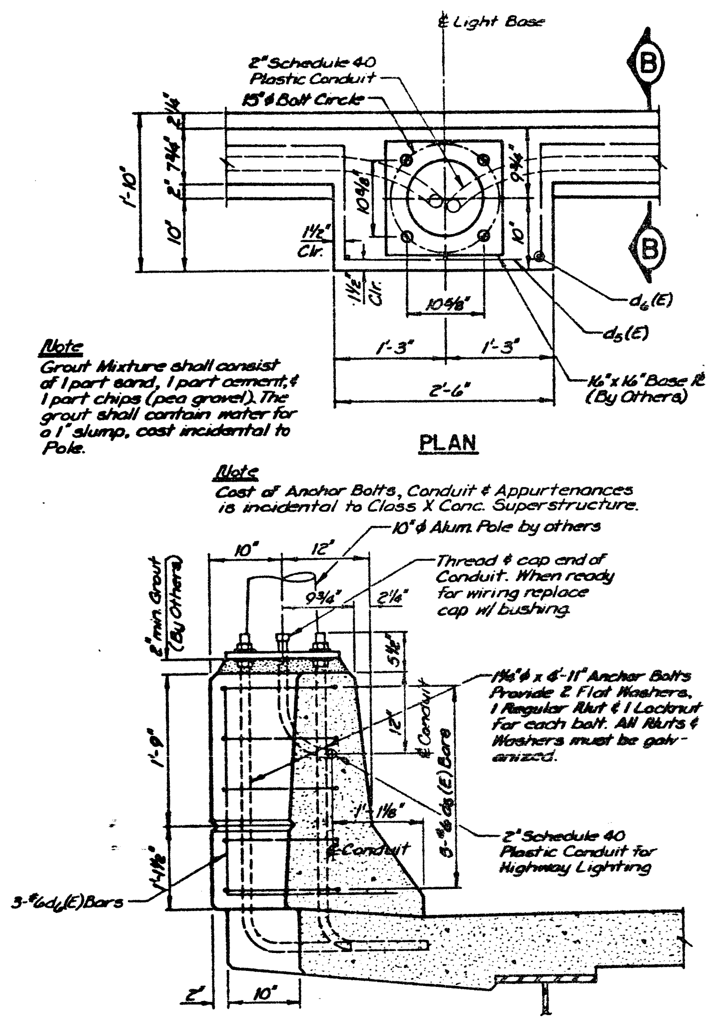
SECTION THRU PARAPET



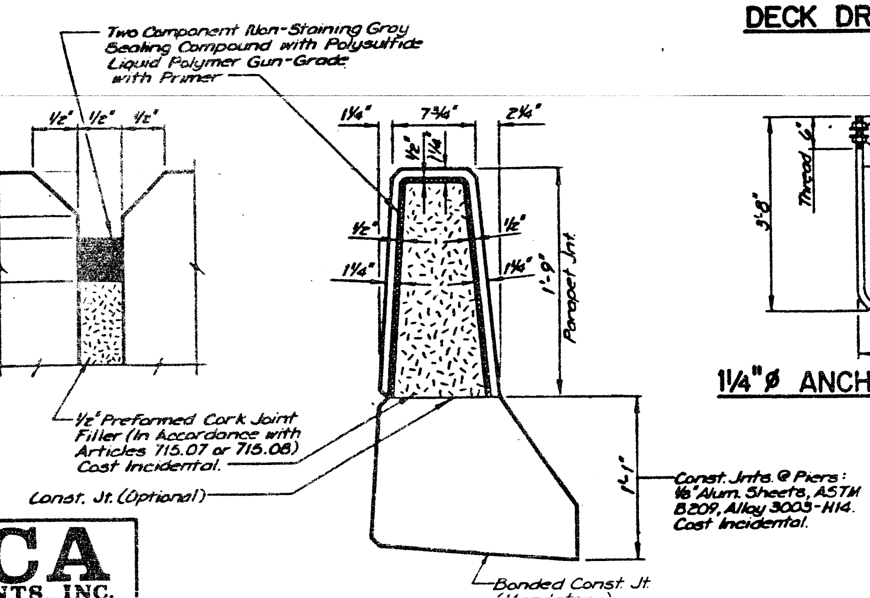
SECTION A-A



DECK DRAIN DETAILS

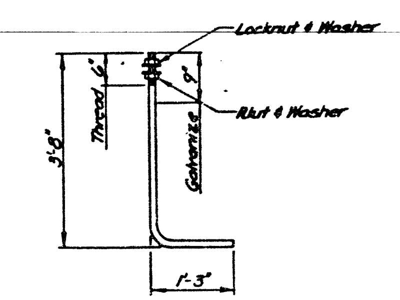


DETAIL OF LIGHT STANDARD

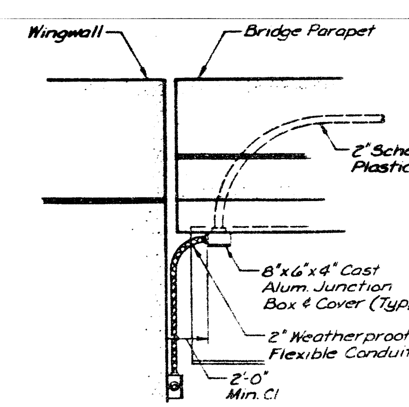


DETAILS OF PARAPET JOINT

(See Dwg. No. 11 for locations of these joints)



1¼"ϕ ANCHOR BOLT



AT ABUTMENTS

S. Corner, W. Abut. EB Lanes Shown;
S. Corner E. Abut. EB Lanes,
N. Corner W. Abut. WB Lanes &
N. Corner E. Abut. WB Lanes Similar

NOTES

1. FIBERGLASS PIPE SHALL CONFORM TO ASTM D2996, WITH SHORT-TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 P.S.I. MINIMUM.

2. THE SURFACE OF THE FIBERGLASS PIPE SHALL BE FREE OF BOND INHIBITING AGENTS.

3. THE EXTERIOR SURFACES OF THE FLOOR DRAIN SHALL BE PAINTED WITH THE LEAD & CHROMATE FREE ALKYD PAINTING SPECIFIED FOR STRUCTURAL STEEL. THE EXTERIOR SURFACES OF THE ALUMINUM TUBE SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH STEEL STRUCTUES PAINTING COUNCIL'S SPEC. SSPC-SP1 & SSPC-PAINT 27 PRIOR TO PAINTING. FIBERGLASS TO HAVE PREWASH AS PER MIL-P-15328.

4. THE CLAMPING DEVICE SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.

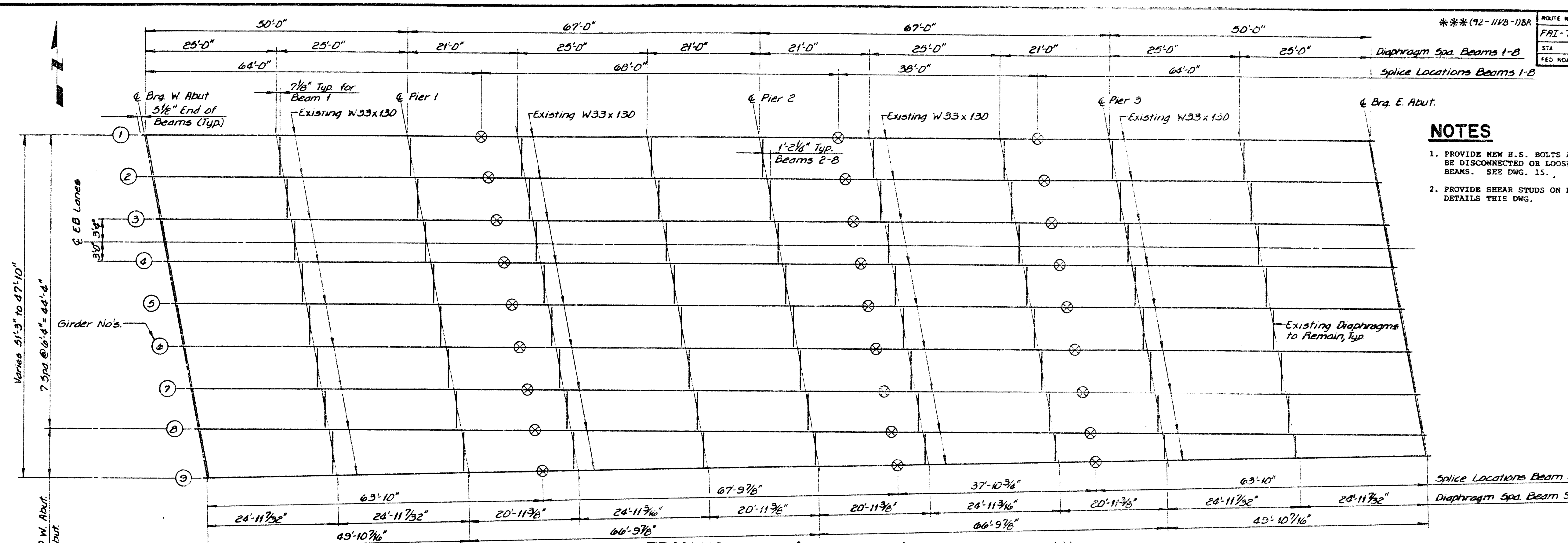
5. SEE DWGS. 9 & 10 FOR LOCATION OF LIGHT STANDARDS.

ESCA CONSULTANTS, INC.

DESIGNED BY:	KMR	12-89
DRAWN BY:	WEM	1-90
CHECKED BY:	RDP	2-90
APPROVED BY:	RDP	3-90

SUPERSTRUCTURE DETAILS

FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION(92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012(WB)
STRUCTURE NO. 092-0013(EB)



FRAMING PLAN (EB BRIDGE)

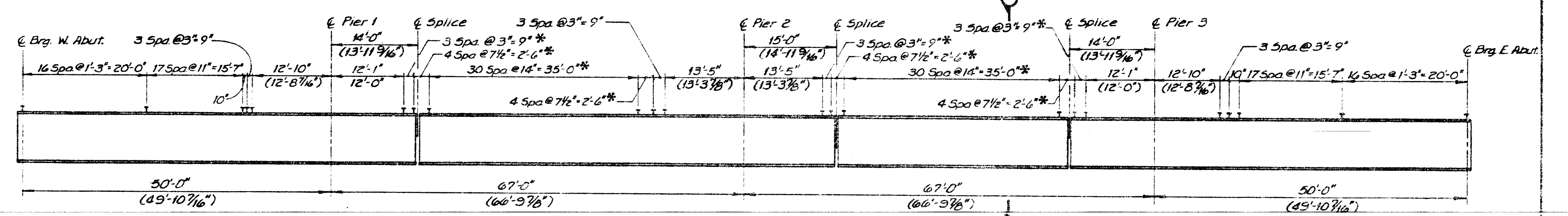
NOTES

1. PROVIDE NEW H.S. BOLTS AT ALL CONNECTIONS WHICH MUST BE DISCONNECTED OR LOOSENED IN ORDER TO REPOSITION BEAMS. SEE DWG. 15.
2. PROVIDE SHEAR STUDS ON EXISTING BEAMS AS SHOWN ON DETAILS THIS DWG.

TABLE OF ELEVATIONS** (T/O STEEL BEAMS)

BEAM	W. ABUT.	PIER 1	SPAN 2 SPLICE	PIER 2	SPAN 3 SPLICE	SPAN 3 SPLICE	PIER 3	E. ABUT.
1	645.378	644.901	—	644.320	—	—	643.744	643.366
2	645.474	644.997	—	644.416	—	—	643.840	643.462
3	645.536	645.059	—	644.477	—	—	643.901	643.523
4	645.527	645.050	—	644.469	—	—	643.893	643.515
5	645.449	644.972	—	644.391	—	—	643.815	643.437
6	645.313	644.836	—	644.255	—	—	643.679	643.301
7	645.171	644.694	—	644.113	—	—	643.537	643.159
8	645.029	644.552	—	643.971	—	—	643.395	643.017
9	644.895	644.434	—	643.875	—	—	643.319	642.959

** ELEVATIONS SHOWN ARE TOP OF FLANGE (NOT SPLICE PLATE OR COVER PLATE) AFTER RAISING; THEY DO NOT INCLUDE DEFLECTION, AND ARE INTENDED TO ASSIST THE CONTRACTOR IN DETERMINING REQUIRED THICKNESS OF SHIM PLATES AND FILL PLATES UNDER BEARINGS. SEE NOTE 5 UNDER "PROCEDURE" ON DWG. NO. 15.



* Spacing May be Adjusted Slightly in the Field to Miss Existing Bolts at Splices.

SHEAR STUD SPACING

(Beams ① Thru ⑨, & ⑫ Thru ⑯)

Note: Dimensions Noted ( ) are for Beam ⑨, Which is Flared.

MOMENT TABLE (EB & WB BRIDGES)

		0.4 Span 1	Pier 1	0.5 Span 2	Pier 2	0.5 Span 3	Pier 3	0.6 Span 4
f_s (overload)	ksi	23.63	26.83	29.33	30.61	29.33	26.83	23.64
M_u	ft-k	2504.0	-	2504.0	-	2504.0	-	2504.0
I_s	in^4	6,710	6,710	6,710	6,710	6,710	6,710	6,710
I_c DL (n=27)	in^4	13,204	-	13,204	-	13,204	-	13,204
I_c LL (n=9)	in^4	18,045	-	18,045	-	18,045	-	18,045
S_s	in^3	406	406	406	406	406	406	406
S_c DL (n=27)	in^3	541	-	541	-	541	-	541
S_c LL (n=9)	in^3	600	-	600	-	600	-	600
DL NC	k/ft	0.83	1.11	0.83	1.11	0.83	1.11	0.83
M DL NC	ft-k	137.0	368.7	164.0	421.5	164.0	368.7	137.0
DL C	k/ft	0.28	-	0.28	-	0.28	-	0.28
M DL C	ft-k	51.3	-	68.9	-	68.9	-	51.3
M LL	ft-k	326.0	192.6	413.9	221.4	413.9	192.6	326.1
M_{Imp}	ft-k	93.1	52.5	107.8	57.7	107.8	52.5	93.2
5/3 M LL + Imp	ft-k	698.5	408.5	869.5	465.2	869.5	408.5	698.8
M_a	ft-k	1152.8	1010.4	1433.1	1152.7	1433.1	1010.4	1153.2
f_s DL NC	ksi	4.05	10.90	4.85	12.46	4.85	10.90	4.05
f_s DL C	ksi	1.14	-	1.53	-	1.53	-	1.14
f_s 5/3 (LL+I)	ksi	13.97	12.07	17.39	13.75	17.39	12.07	13.98
f_s (Total)	ksi	-	29.86	-	34.07	-	29.86	-
V_R	k	46.3	-	43.1	-	43.1	-	46.3

I_s AND S_s ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_s (TOTAL).

I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING f_s (TOTAL).

VR IS THE MAXIMUM LL + IMPACT SHEAR RANGE IN SPAN.

THE FULLY PLASTIC MOMENT CAPACITY (M_u) IS COMPUTED ACCORDING TO AASHTO 10.50.1.1.

M_a (APPLIED MOMENT) = 1.3 [M DL + M_s DL + 5/3 (M LL + I)].

f_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO 1.3 [M DL + M_s DL + 5/3 (M LL + I)].

M DL N.C. = MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.

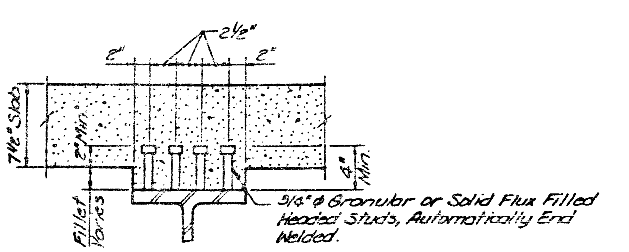
M_s DL C. = MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.

M LL = MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION.

M IMP = MOMENT DUE TO LIVE LOAD IMPACT ON NON-COMPOSITE OR COMPOSITE SECTION.

REACTION TABLE (EB & WB BRIDGES)

ALL BEAMS						
		W. Abut.	Pier 1	Pier 2	Pier 3	E. Abut.
R DL	k	20.6	72.1	76.6	72.1	20.6
R LL	k	33.3	40.3	42.8	40.3	33.3
R_{Imp}	k	9.5	11.0	11.1	11.0	9.5
R (Total)	k	63.4	123.4	130.5	123.4	63.4



SECTION A—A

ESCA CONSULTANTS, INC.

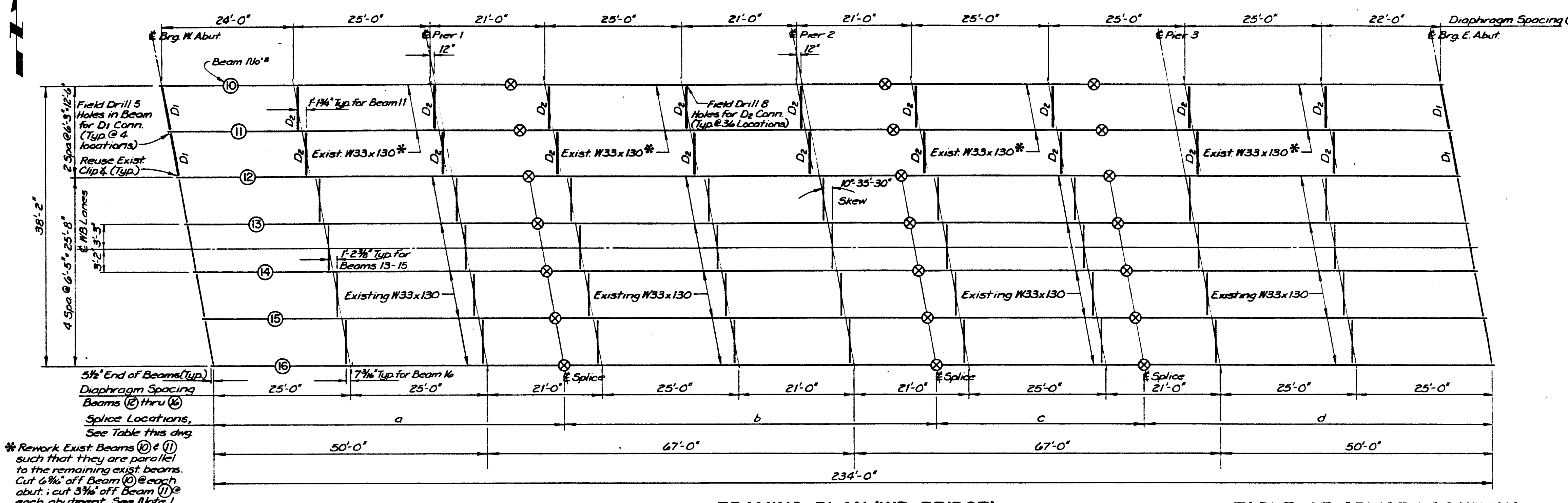
DESIGNED BY:	RDP	1-90
DRAWN BY:	GGB	1-90
CHECKED BY:	JRF	1-90
APPROVED BY:	RDP	1-90

SUPERSTRUCTURE STEEL DETAILS
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION(92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012(WB)
STRUCTURE NO. 092-0013(EB)

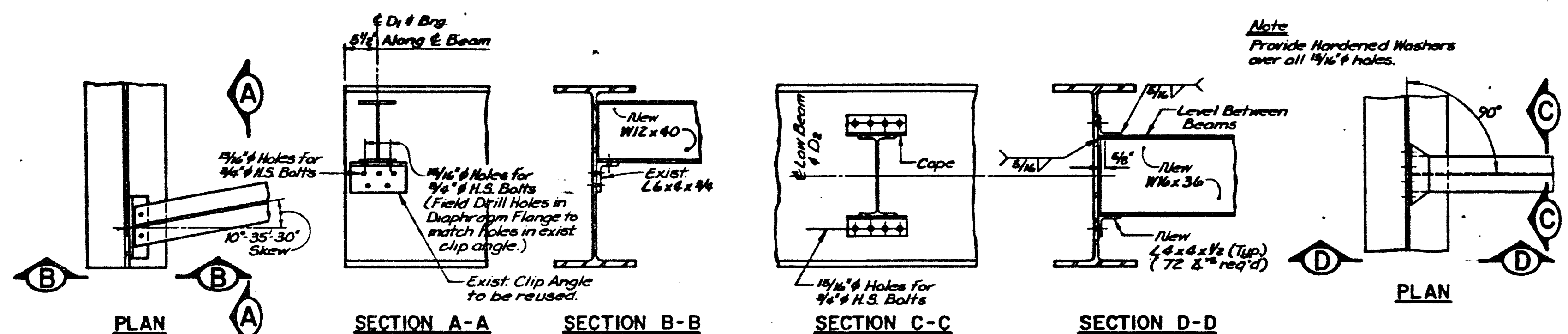
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI-74	①	Vermilion	165	144
STA		TO STA		
FED ROAD DIST NO 7	ILLINOIS	PROJECT		

① (92-11VB-1)BR

Dwg. No. 14 of 32



FRAMING PLAN (WB BRIDGE)



DIAPHRAGM D1 CONNECTION DETAILS

DIAPHRAGM D2 CONNECTION DETAILS

TABLE OF SPLICE LOCATIONS

BEAM No's	a	b	c	d
10	63'-9 1/16"	68'-3 3/4"	38'-2 1/8"	63'-9 1/16"
11	63'-10 9/16"	68'-1 7/8"	38'-1"	63'-10 9/16"
12, 13, 14, 15 & 16	64'-0"	68'-0"	38'-0"	64'-0"

NOTES

1. EXISTING BEAMS 10 & 11 ARE TO BE REMOVED, REWORKED FOR REALIGNMENT, AND REUSED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING DIAPHRAGMS NORTH OF BEAM 12. BEAMS 10 & 11 SHALL BE SHORTENED (FIELD CUT 6 9/16" FROM EACH END OF BEAM 10; FIELD CUT 3 3/16" FROM EACH END OF BEAM 11), BEARINGS SHALL BE RELOCATED ON THE BEAMS, AND NEW HOLES DRILLED FOR BEARING AND DIAPHRAGM CONNECTIONS AS REQUIRED. SHORTENING SHALL BE ACCOMPLISHED BY CUTTING LENGTH FROM THE BEAMS AT EACH ABUTMENT, SUCH THAT EXISTING SPLICES ARE LOCATED FROM PIERS AS SHOWN. EXISTING HOLES WHICH ARE NOT TO BE REUSED SHALL BE FILLED WITH H.S. BOLTS. COST INCIDENTAL TO FURNISH & ERECT STRUCTURAL STEEL. SEE SPECIAL PROVISIONS.
2. D1 & D2 INDICATE NEW DIAPHRAGMS.
3. PROVIDE NEW H.S. BOLTS AT ALL CONNECTIONS WHICH MUST BE DISCONNECTED OR LOOSENED IN ORDER TO REPOSITION BEAMS.
4. PROVIDE SHEAR STUDS ON EXISTING BEAMS AS SHOWN ON DETAILS THIS DWG.
5. REUSE EXISTING SPLICE MATERIAL, EXCEPT PROVIDE NEW BOLTS WHERE NOTE 3 APPLIES.

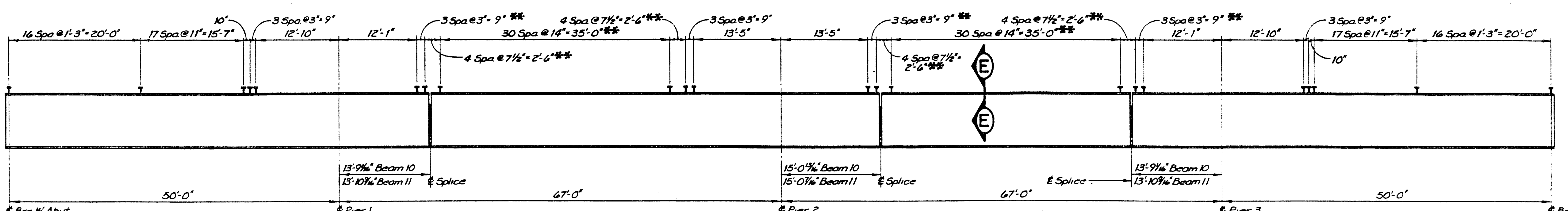
EB & WB BILL OF MATERIAL

ITEM	UNIT	QUANTITY
F & E Struct Steel Loc. 2	L. Sum	1
Stud Shear Connectors	Each	10,624

*** ELEVATIONS SHOWN ARE TOP OF FLANGE (NOT SPLICE PLATE OR COVER PLATE) AFTER RAISING; THEY DO NOT INCLUDE DEFLECTION, AND ARE INTENDED TO ASSIST THE CONTRACTOR IN DETERMINING REQUIRED THICKNESS OF SHIM PLATES AND FILL PLATES UNDER BEARINGS. SEE NOTE 5 UNDER "PROCEDURE" ON DWG. NO. 15.

TABLE OF ELEVATIONS (T/O STEEL BEAMS)***

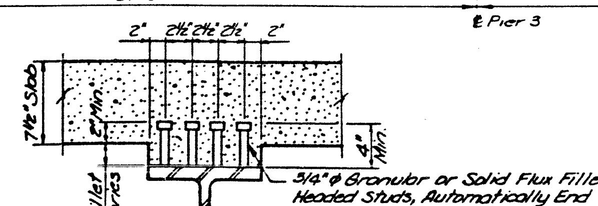
BEAM	W. ABUT.	PIER 1	SPAN 2	PIER 2	SPAN 3		PIER 3	E. ABUT.
			SPLICE		SPLICE	SPLICE		
10	645.362	644.883	—	644.303	—	—	643.731	643.350
11	645.482	645.003	—	644.423	—	—	643.851	643.470
12	645.577	645.095	—	644.520	—	—	643.948	643.565
13	645.639	645.157	—	644.582	—	—	644.009	643.626
14	645.629	645.147	—	644.572	—	—	644.000	643.617
15	645.548	645.066	—	644.491	—	—	643.918	643.535
16	645.430	644.948	—	644.372	—	—	643.800	643.417



** Spacing may be adjusted slightly in the field to miss existing bolts at splices.

SHEAR STUD SPACING

(Beams 10 & 11)



SECTION E-E

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	1-90
DRAWN BY:	WEM	1-90
CHECKED BY:	JRF	3-90
APPROVED BY:	RDP	3-90

SUPERSTRUCTURE STEEL DETAILS

FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

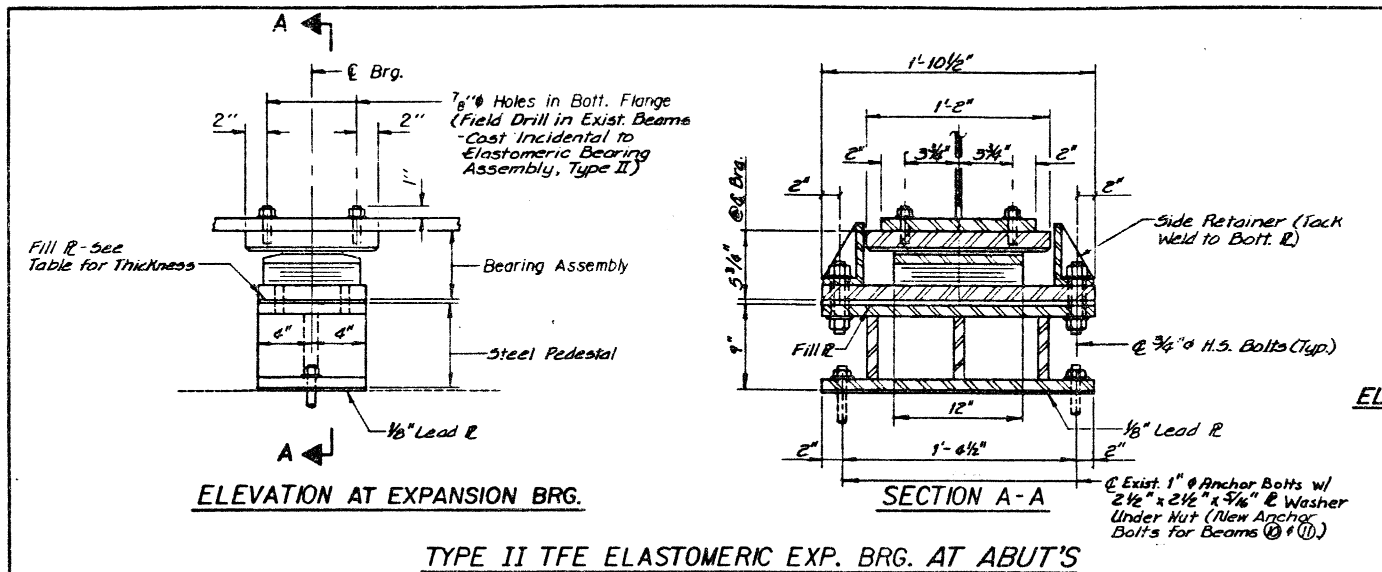
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	**	Vermilion	165	145

STA. TO STA.

FED. ROAD DIST. NO. 7 | ILLINOIS | PROJECT

Dwg. No. 15 of 32

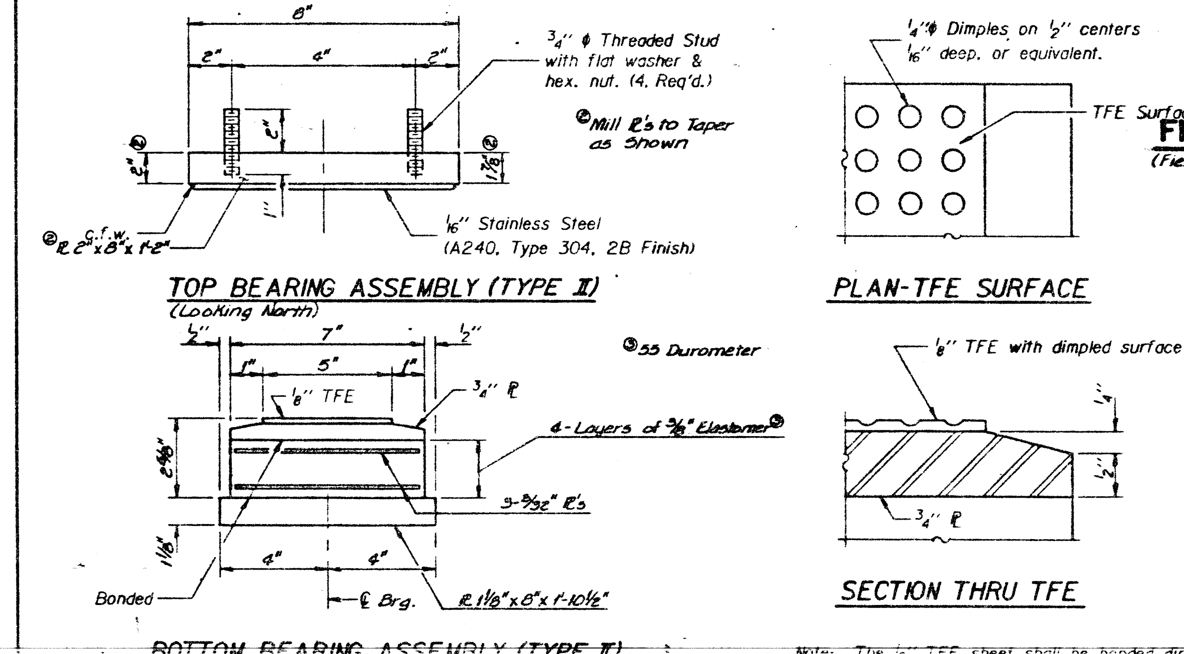
** (92-11VB-1)BR



ELEVATION AT EXPANSION BRG.

SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG. AT ABUT'S

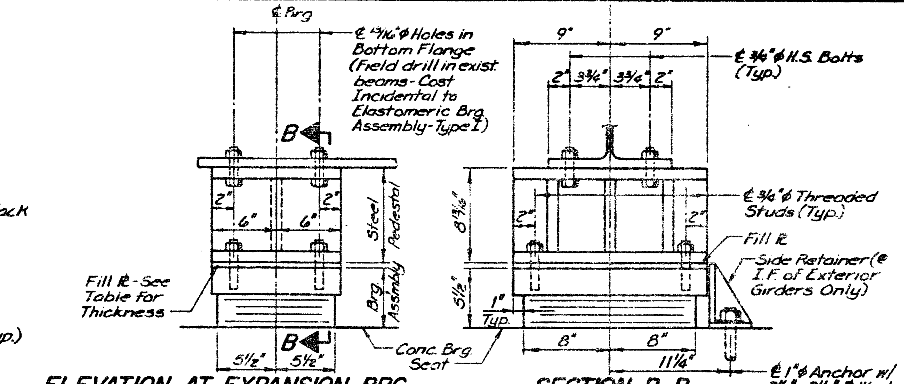


TOP BEARING ASSEMBLY (TYPE II)
(Looking North)

PLAN-TFE SURFACE

SECTION THRU TFE

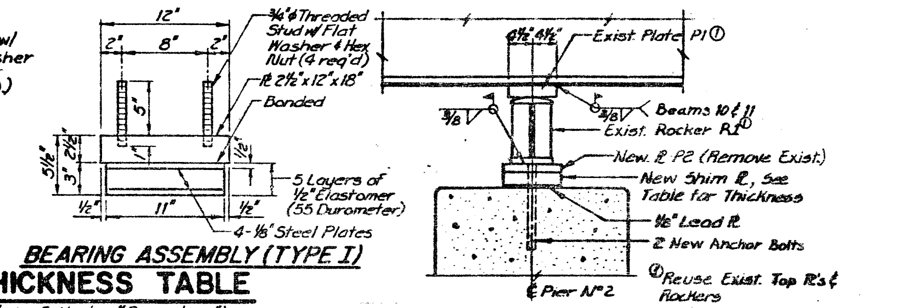
BOTTOM BEARING ASSEMBLY (TYPE II)



ELEVATION AT EXPANSION BRG.

SECTION B-B

TYPE I TFE ELASTOMERIC EXP. BRG. AT PIERS 1 & 3



BEARING ASSEMBLY (TYPE I)

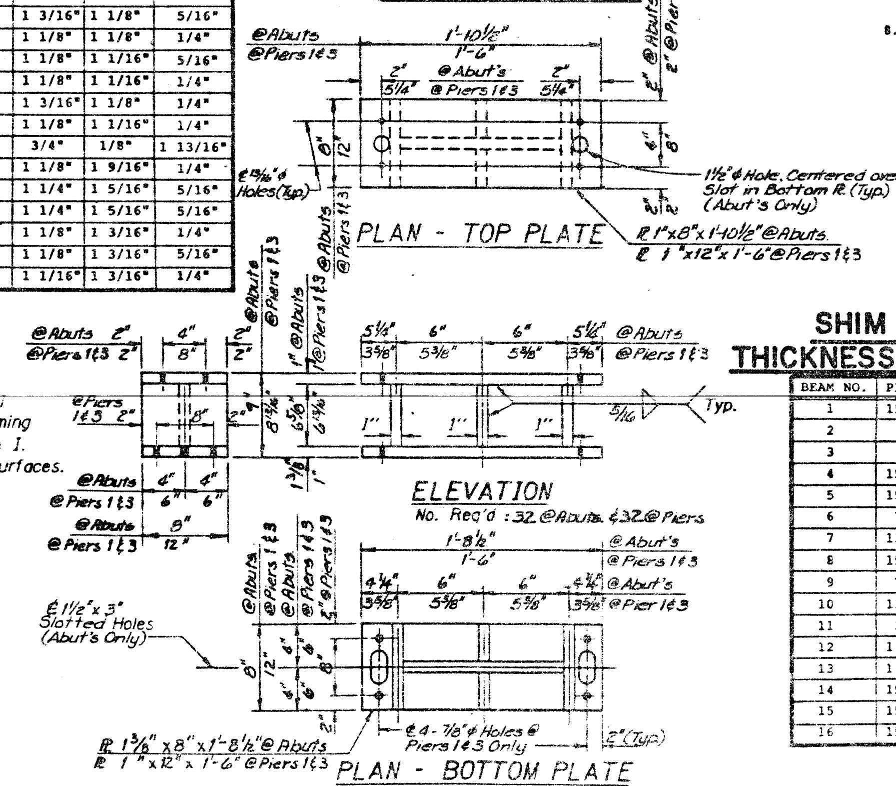
ELEVATION AT FIXED BEARING

FIXED BEARINGS

FILL ℙ THICKNESS TABLE

(Field Verify - See Note 5 Under "Procedure")

BEAM NO.	W. ABUT.	PIER 1	PIER 3	E. ABUT.
1	1/4"	1 1/16"	1 1/8"	1/4"
2	7/16"	1 1/4"	1 3/16"	7/16"
3	7/16"	1 5/16"	1 3/16"	7/16"
4	3/8"	1 3/16"	1 1/8"	5/16"
5	1/4"	1 1/8"	1 1/8"	1/4"
6	5/16"	1 1/8"	1 1/16"	5/16"
7	1/4"	1 1/8"	1 1/16"	1/4"
8	1/4"	1 3/16"	1 1/8"	1/4"
9	5/16"	1 1/8"	1 1/16"	1/4"
10	3/16"	3/4"	1/8"	1 13/16"
11	7/16"	1 1/8"	1 9/16"	1/4"
12	3/8"	1 1/4"	1 5/16"	5/16"
13	3/8"	1 1/4"	1 5/16"	5/16"
14	1/4"	1 1/8"	1 3/16"	1/4"
15	1/4"	1 1/8"	1 3/16"	5/16"
16	1/4"	1 1/16"	1 3/16"	1/4"



PLAN - TOP PLATE

ELEVATION

PLAN - BOTTOM PLATE

STEEL PEDESTAL DETAILS

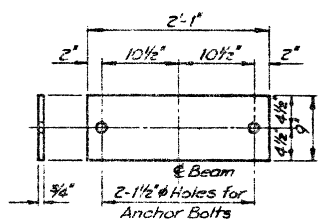
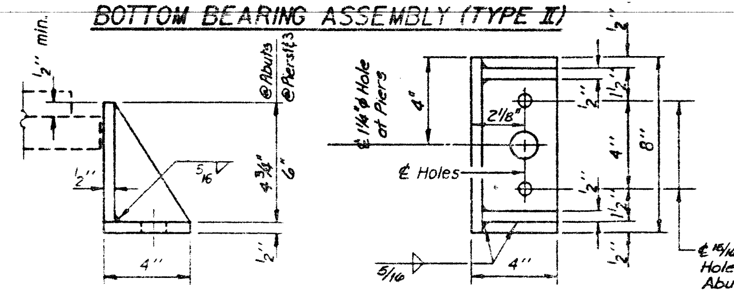


PLATE P2
(16 Req'd)

SHIM ℙ THICKNESS TABLE

(Field Verify - See Note 5 Under "Procedure")

BEAM NO.	PIER 2
1	15/16"
2	1"
3	1"
4	15/16"
5	15/16"
6	7/8"
7	13/16"
8	15/16"
9	7/8"
10	13/16"
11	3/4"
12	1 1/16"
13	1 1/16"
14	15/16"
15	15/16"
16	15/16"

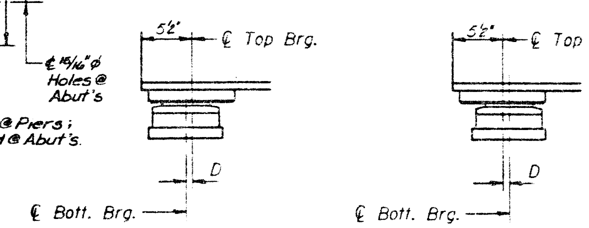


SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



BELOW 50°F.
(Move bott. brg. away from fixed brg.)

ABOVE 50°F.
(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT TYPE II EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

PROCEDURE

1. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE ENGINEER, PLANS FOR RAISING EXISTING BEAMS, PROVIDING NEW EXPANSION BEARINGS AND SHIMMING EXISTING FIXED BEARINGS PRIOR TO COMMENCING ANY RELATED WORK. THIS WORK SHALL BE DONE FOR EACH STAGE AFTER EXISTING CONCRETE DECK IS REMOVED AND PRIOR TO POURING OF NEW CONCRETE DECK. THE MAXIMUM DEAD LOAD REACTION PER BEAM (WEIGHT OF STEEL ONLY) AT ABUTMENTS IS 4 kips AND AT PIERS IS 15 kips.
2. DIAPHRAGMS ALONG THE STAGE CONSTRUCTION LINE SHALL BE DISCONNECTED BEFORE RAISING OPERATIONS COMMENCE. ALL NUTS ON BEARING ANCHOR BOLTS ON BEAMS TO BE RAISED SHALL BE REMOVED AND PRESERVED FOR REUSE (CUT OFF ANCHOR BOLTS FLUSH WITH BRG. SEAT AT ALL PIER BEARINGS AND AT ABUTMENT BEARINGS FOR BEAMS 10 & 11 ONLY. ANCHOR BOLTS AT REMAINING ABUTMENT BEARINGS TO BE PRESERVED FOR REUSE. SEE NOTE 6).
3. RAISING SHALL BE DONE BY JACKING. MEASURES SHALL BE TAKEN TO PREVENT LATERAL OR LONGITUDINAL DISPLACEMENT OF BEAMS DURING RAISING OPERATIONS. ALL BEAMS FOR EACH STAGE AT A GIVEN SUB-STRUCTURE ELEMENT SHALL BE SLOWLY AND CONTINUALLY RAISED THE SAME AMOUNT* SIMULTANEOUSLY, WITH THE MAXIMUM AMOUNT OF RAISE LIMITED TO 1" GREATER THAN THAT REQUIRED TO INSTALL NEW BEARINGS OR SHIM PLATES. ANY SWAY OF THE STEEL DURING RAISING OPERATIONS SHALL BE IMMEDIATELY CORRECTED.
4. DIAPHRAGMS MAY BE USED AS JACKING BEAMS. IF SO, JACKS SHALL BE PLACED AT THE MIDPOINT OF THE DIAPHRAGM, ON THE CENTERLINE OF BEARING. THE STEEL SHALL BE RAISED IN INCREMENTS OF 1/2" AND SHALL BE BLOCKED IN POSITION UPON COMPLETION OF A RAISING INTERVAL. TIMBER BLOCKING MAY BE USED TO HOLD THE STRUCTURE IN PLACE WHILE JACKS ARE REPOSITIONED FOR THE NEXT LIFT.
5. PRIOR TO RAISING, ELEVATIONS OF EXISTING BEARING SEATS SHALL BE TAKEN AND THE ENGINEER SHALL VERIFY FILL PLATE AND SHIM PLATE THICKNESSES REQUIRED AT EACH BEARING. THIS SHALL BE ACCOMPLISHED BY USING FIELD MEASUREMENTS ALONG WITH THE "TABLE OF ELEVATIONS - TOP OF STEEL BEAMS" ON DWG. NOS. 13 AND 14.
6. RAISE BEAMS, REMOVE EXISTING EXPANSION BEARINGS, INSTALL NEW SHIM PLATES AND PLATES P2 UNDER EXISTING FIXED BEARINGS, AND INSTALL NEW ELASTOMERIC EXPANSION BEARINGS. INSTALL NEW ANCHOR BOLTS AT FIXED BEARINGS, AND AT ABUTMENT BEARINGS FOR BEAMS 10 & 11. PLACE AND TIGHTEN NUTS ON EXISTING ANCHOR BOLTS AT BEAMS 1 THRU 9 AND 12 THRU 16 AT ABUTMENT BEARINGS.
7. AFTER WORK ON THE BEARINGS IS COMPLETE, REPAINT ANY AREAS DISTURBED BY WELDINGS, ETC. WITH THE SAME PAINT SYSTEM SPECIFIED FOR THE STRUCTURAL STEEL.
8. ALL WORK REQUIRED TO RAISE THE BEAMS SHALL BE PAID FOR AT THE LUMP SUM PRICE FOR "JACKING EXISTING STRUCTURES." SEE SPECIAL PROVISIONS.

*AT NO TIME SHALL THE DIFFERENCE IN RAISED HEIGHT BETWEEN ANY TWO ADJACENT JACKS EXCEED 1/2".

NOTES

1. PORTIONS OF EXISTING FIXED BEARINGS TO BE REUSED IN NEW CONSTRUCTION.
2. SEE DWG. NO. 31 FOR ANCHOR BOLT DETAILS.
3. ANCHOR BOLTS AT FIXED BEARINGS MAY BE BUILT INTO THE MASONRY.
4. THE NEW STEEL PEDESTALS, FILL PLATES & SIDE RETAINERS FOR EXP. BRGS. AS WELL AS THE NEW PLATES P2 & SHIM PLATES UNDER EXISTING FIXED BEARINGS ARE INCLUDED IN "FURNISHING & ERECTING STRUCTURAL STEEL."

BILL OF MATERIAL

Item	Unit	Quantity
Elastomeric Bearing Assembly, Type I	Each	32
Elastomeric Bearing Assembly, Type II	Each	32

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	12/90
DRAWN BY:	GGB	12/90
CHECKED BY:	JRF	12/90
APPROVED BY:	RDP	12/90

ELASTOMERIC BEARINGS

FAI 74 OVER CONRAIL

FAI RTE. 74 SECTION (92-11VB-1)BR

VERMILION COUNTY

STATION 1900+80.59

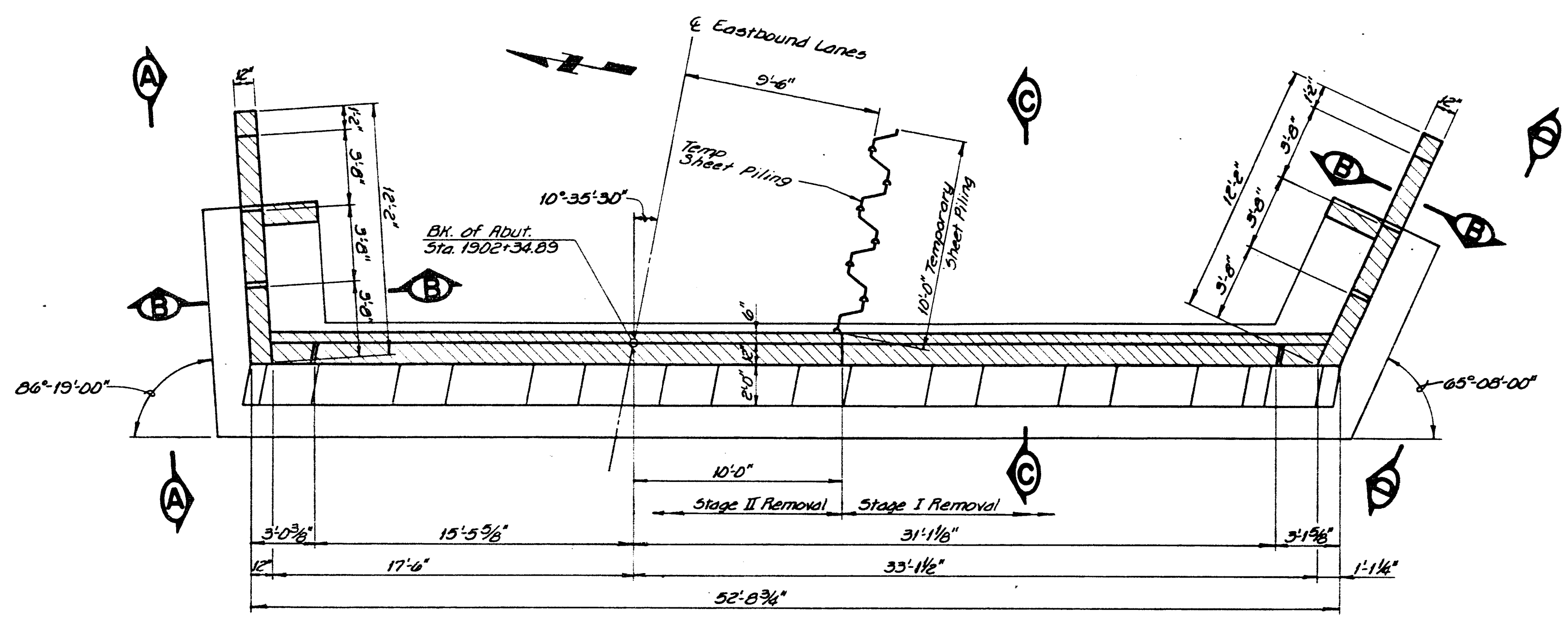
STRUCTURE NO. 092-0012 (WB)

STRUCTURE NO. 092-0013 (EB)

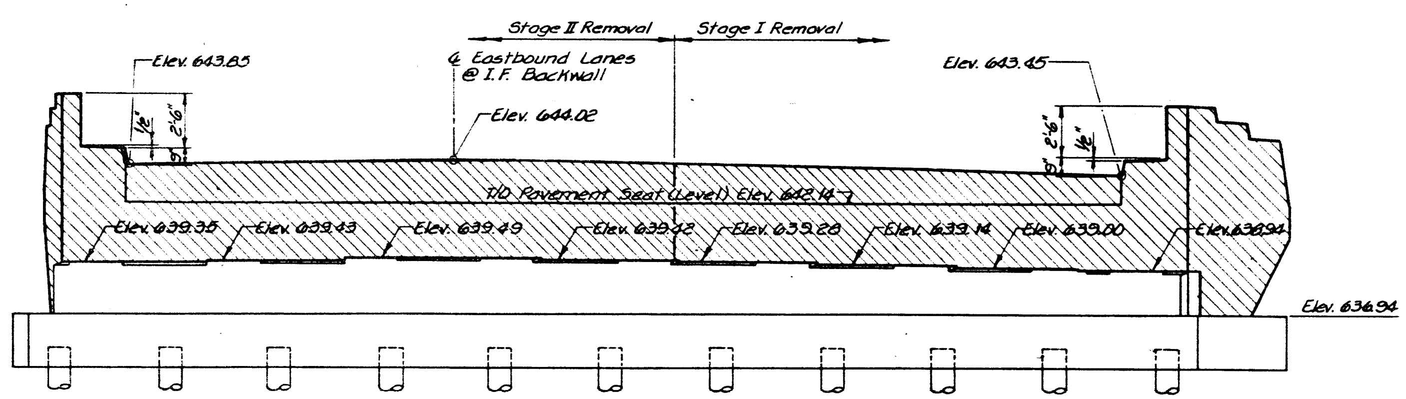
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	*	Vermilion	165	146
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

*(92-11VB-1)BR

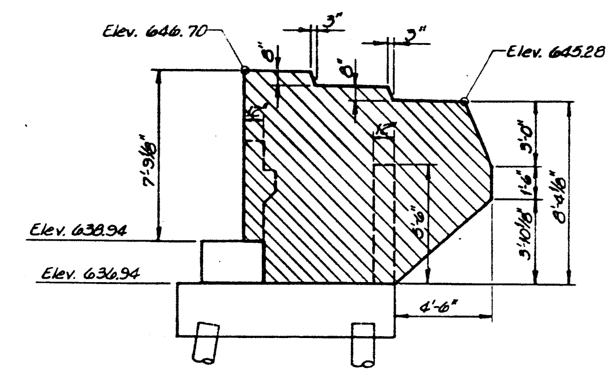
Dwg. No. 16 of 32



PLAN



ELEVATION
(LOOKING EAST)



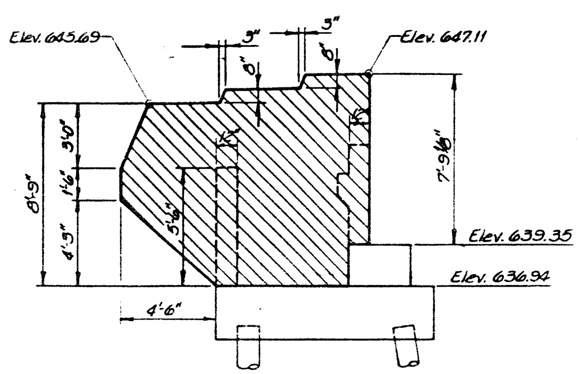
SECTION D-D

NOTES

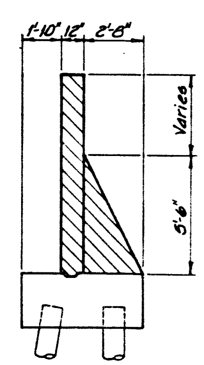
1. HATCHED AREAS INDICATE CONCRETE REMOVAL.
2. SEE DWG. NO. 3 FOR STAGE CONSTRUCTION DETAILS.
3. EXISTING REINFORCEMENT WHICH IS TO BE REUSED IN THE NEW CONSTRUCTION AND EXTENDS INTO REMOVAL AREAS SHALL BE PRESERVED.
4. THE INFORMATION SHOWN FOR THE TEMPORARY SHEET PILING IS ESTIMATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DESIGN AND COMPUTATIONS OF THE TEMPORARY SHEET PILING AND ASSOCIATED MEMBERS, IF REQUIRED, SUBJECT TO APPROVAL OF THE ENGINEER.

BILL OF MATERIAL

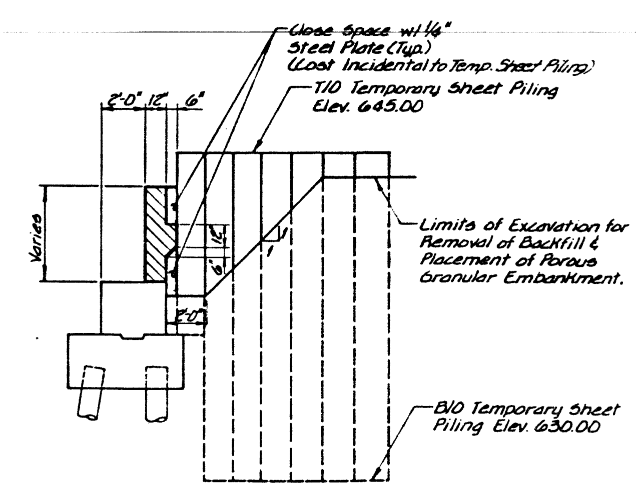
ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yds.	17.9
Temporary Sheet Piling	Sq. Ft.	150
Structure Excavation	Cu. Yds.	40



SECTION A-A



SECTION B-B



SECTION C-C

ESCA CONSULTANTS, INC.

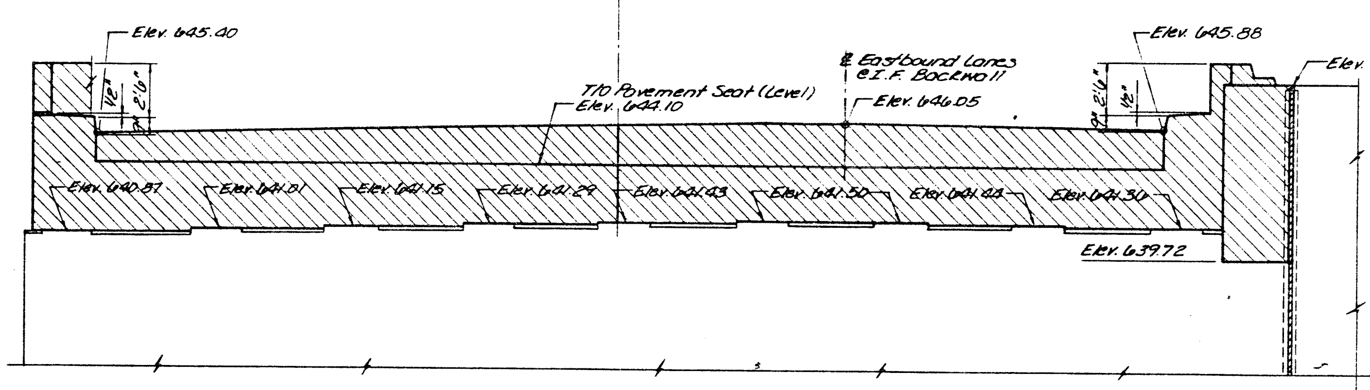
DESIGNED BY:	JRF	1-90
DRAWN BY:	GGB	2-90
CHECKED BY:	RDP	2-90
APPROVED BY:	RDP	2-90

EASTBOUND LANES
EAST ABUTMENT
CONCRETE REMOVAL
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

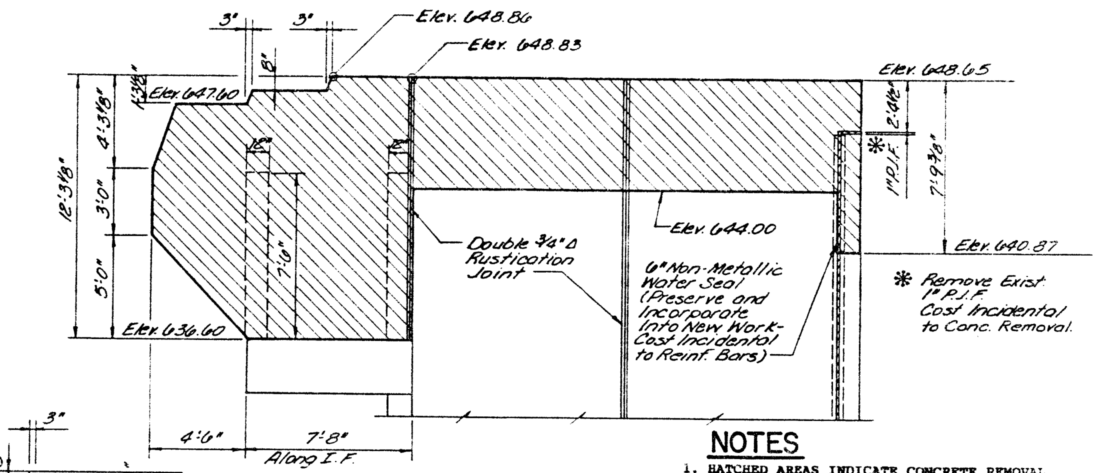
*(92-11VB-1)BR

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI-74	*	Vermilion	165	147
STA		TO STA		
FED ROAD DIST NO 7	ILLINOIS	PROJECT		

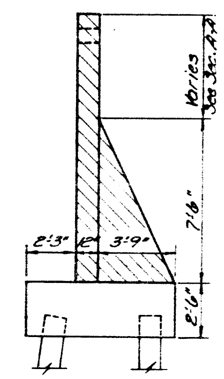
Dwg No. 17 of 32



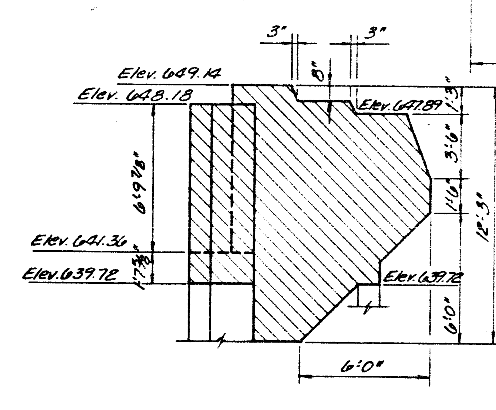
ELEVATION
(LOOKING WEST)



SECTION A-A



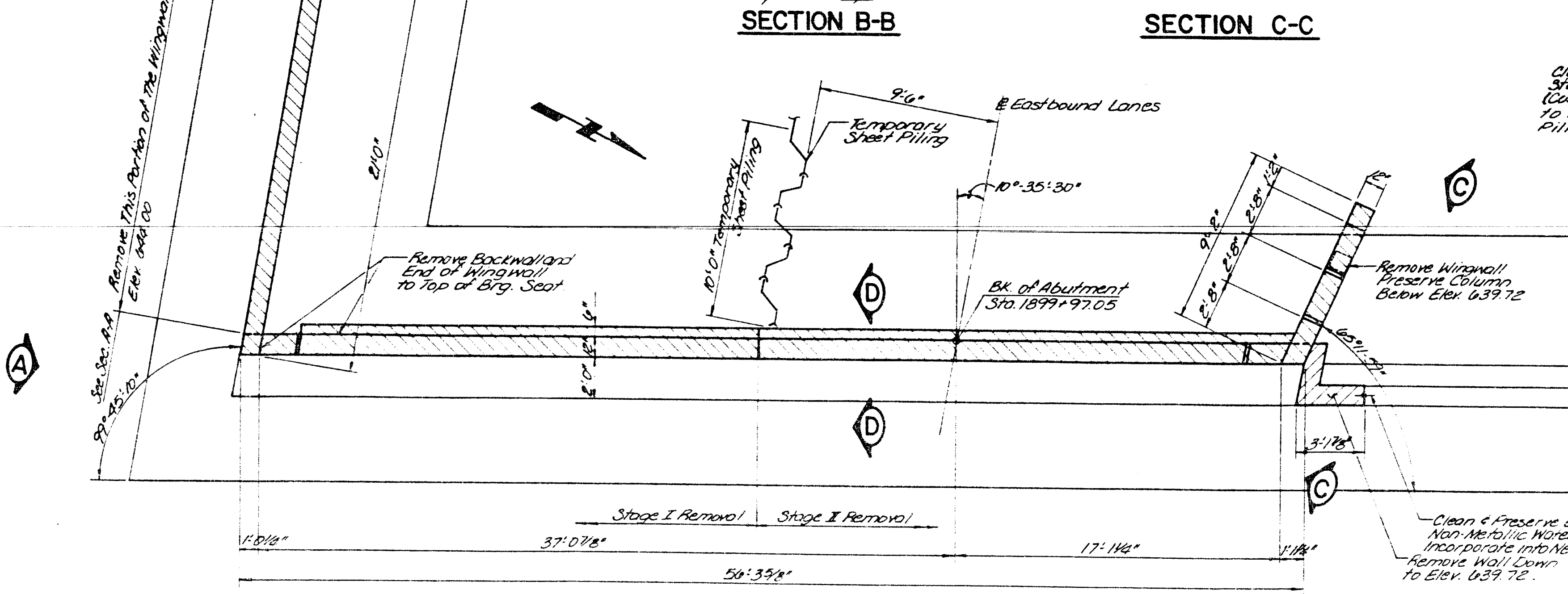
SECTION B-B



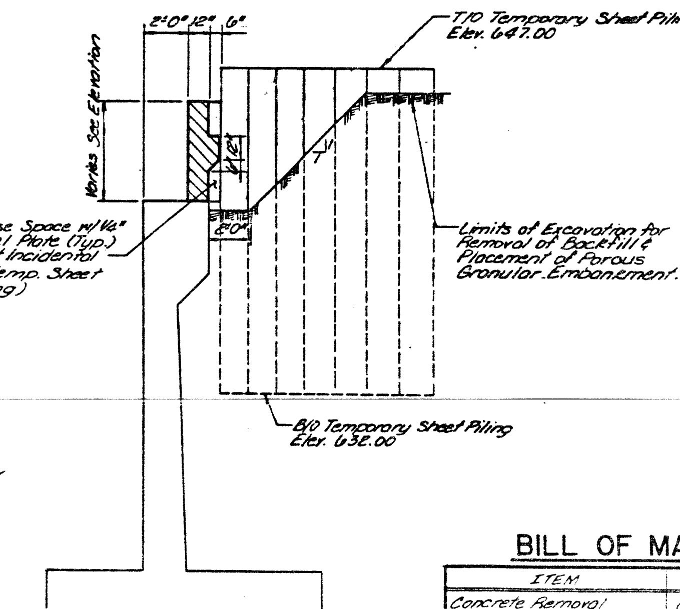
SECTION C-C

NOTES

1. HATCHED AREAS INDICATE CONCRETE REMOVAL.
2. SEE DWG. NO. 3 FOR STAGE CONSTRUCTION DETAILS.
3. EXISTING REINFORCEMENT WHICH IS TO BE REUSED IN THE NEW CONSTRUCTION AND EXTENDS INTO REMOVAL AREAS SHALL BE PRESERVED.
4. THE INFORMATION SHOWN FOR THE TEMPORARY SHEET PILING IS ESTIMATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DESIGN AND COMPUTATIONS OF THE TEMPORARY SHEET PILING AND ASSOCIATED MEMBERS, IF REQUIRED, SUBJECT TO APPROVAL OF THE ENGINEER.



PLAN



SECTION D-D

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yds.	24.3
Temporary Sheet Piling	Sq. Ft.	150
Structure Excavation	Cu. Yds.	55

EASTBOUND LANES
WEST ABUTMENT
CONCRETE REMOVAL
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION(92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012(WB)
STRUCTURE NO. 092-0013(EB)

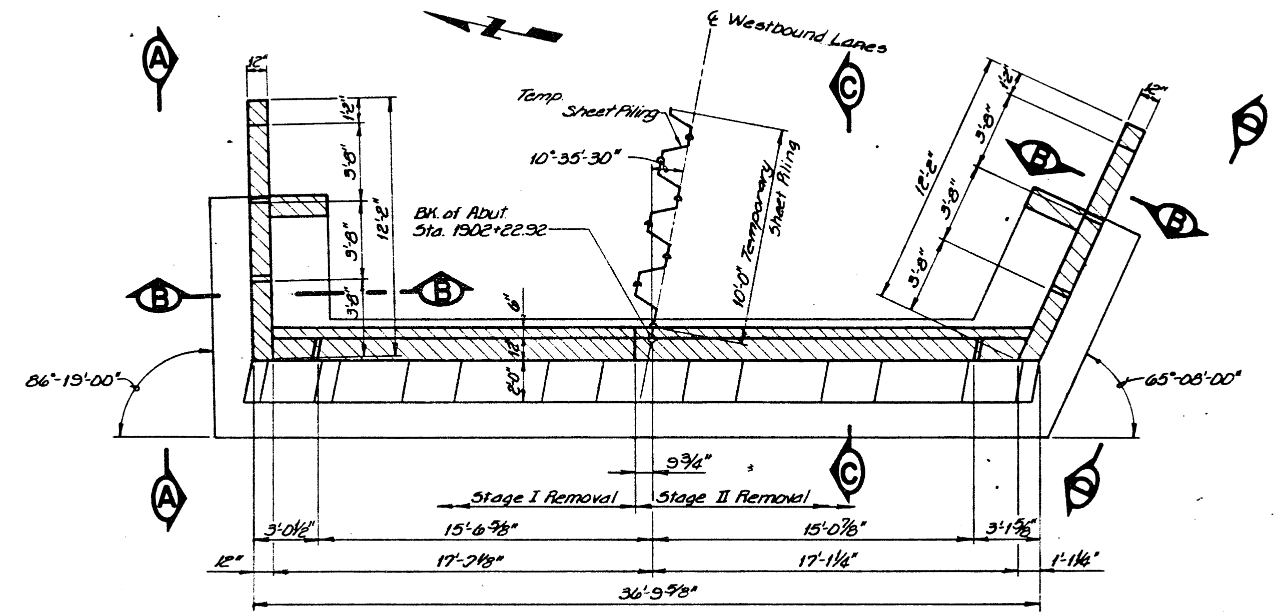
ESCA
CONSULTANTS, INC.

DESIGNED BY	JRF	2 90
DRAWN BY	CJG	2 90
CHECKED BY	RDP	2 90
APPROVED BY	RDP	2 90

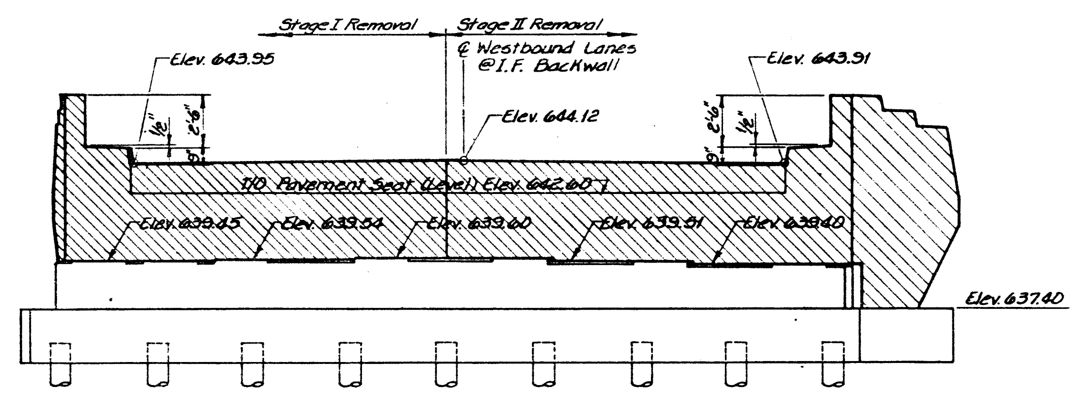
*(92-11VB-1)BR

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI-74	*	Vermilion	165	148
STA		TO STA		
FED ROAD DIST NO 7	ILLINOIS	PROJECT		

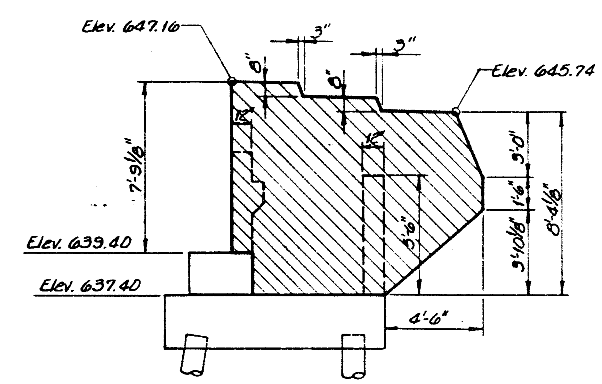
Dwg. No 18 of 32



PLAN



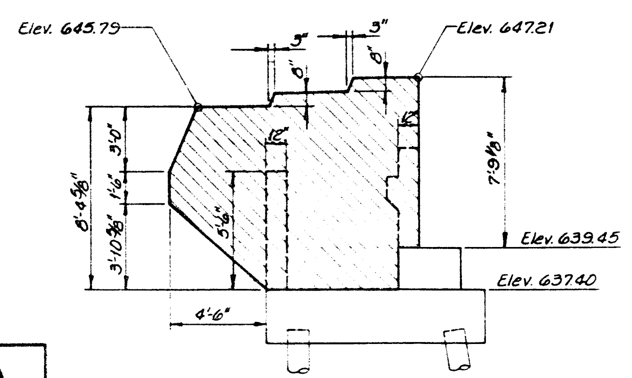
ELEVATION
(LOOKING EAST)



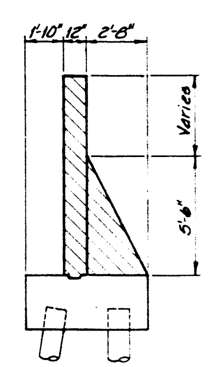
SECTION D-D

NOTES

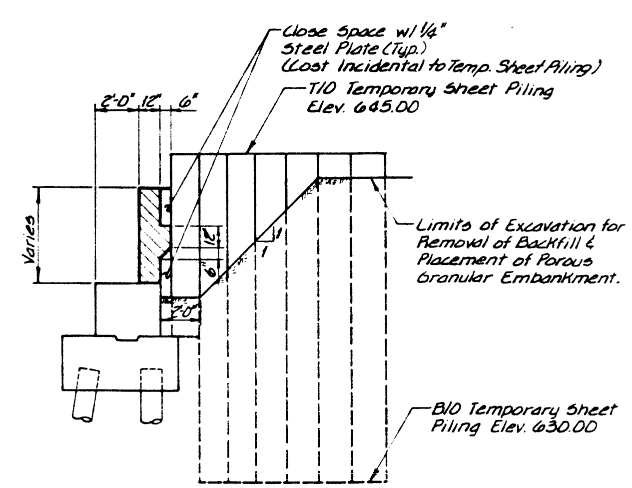
1. HATCHED AREAS INDICATE CONCRETE REMOVAL.
2. SEE DWG. NO. 3 FOR STAGE CONSTRUCTION DETAILS.
3. EXISTING REINFORCEMENT WHICH IS TO BE REUSED IN THE NEW CONSTRUCTION AND EXTENDS INTO REMOVAL AREAS SHALL BE PRESERVED.
4. THE INFORMATION SHOWN FOR THE TEMPORARY SHEET PILING IS ESTIMATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DESIGN AND COMPUTATIONS OF THE TEMPORARY SHEET PILING AND ASSOCIATED MEMBERS, IF REQUIRED, SUBJECT TO APPROVAL OF THE ENGINEER.



SECTION A-A



SECTION B-B



SECTION C-C

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yds	13.9
Temporary Sheet Piling	Sq. Ft.	150
Structure Excavation	Cu. Yds.	40

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JRF	1-90
DRAWN BY:	GGB	2-90
CHECKED BY:	RDP	2-90
APPROVED BY:	RDP	2-90

WESTBOUND LANES
EAST ABUTMENT
CONCRETE REMOVAL

FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION(92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012(WB)
STRUCTURE NO. 092-0013(EB)

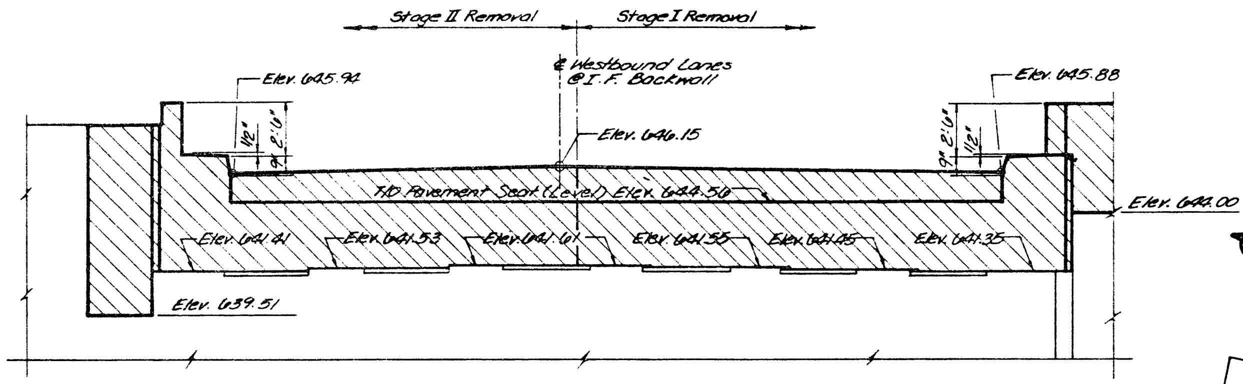
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	* *	Vermilion	165	149
STA		TO STA		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

Dwg. No. 19 of 32

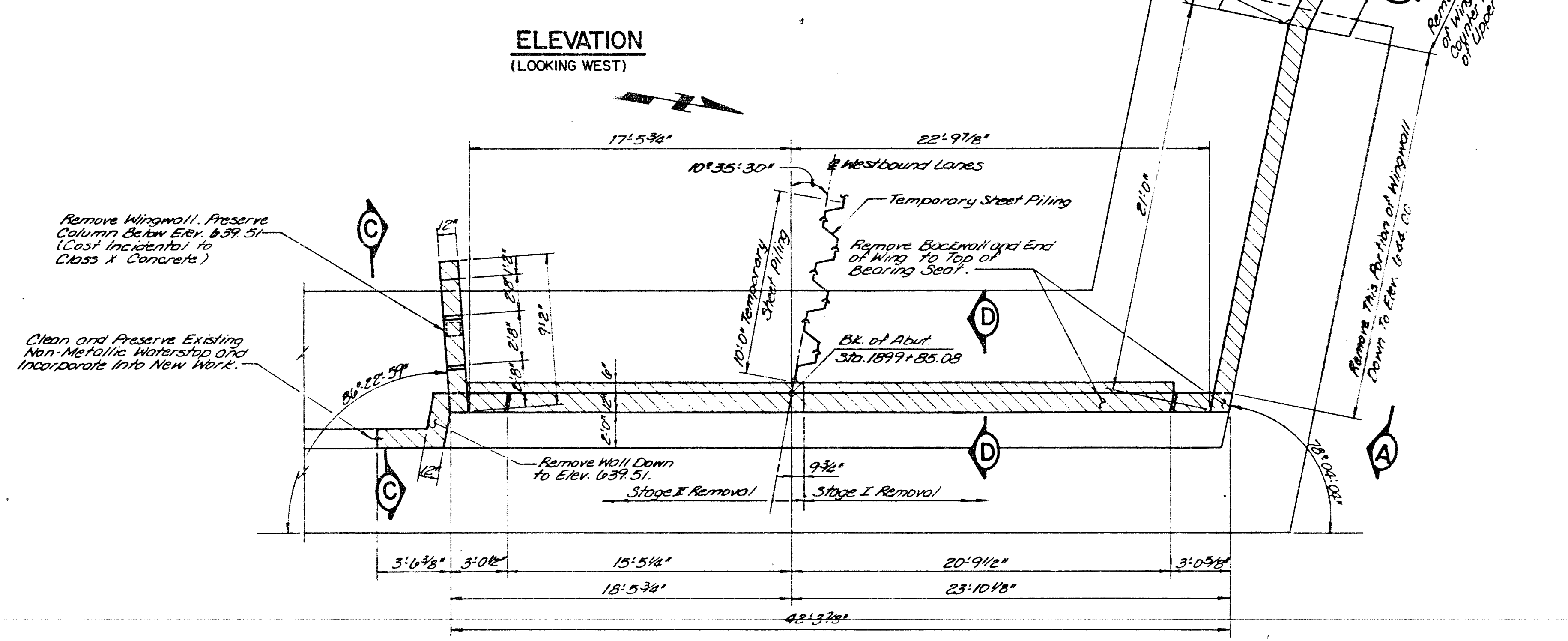
* * (92 - 11VB-1) BR

NOTES

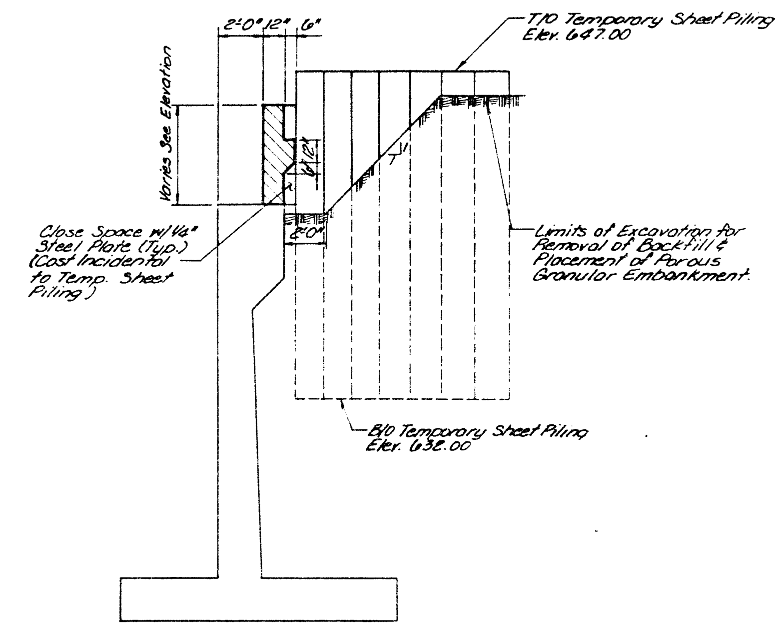
1. HATCHED AREAS INDICATE CONCRETE REMOVAL.
2. SEE DWG. NO. 3 FOR STAGE CONSTRUCTION DETAILS.
3. EXISTING REINFORCEMENT WHICH IS TO BE REUSED IN THE NEW CONSTRUCTION AND EXTENDS INTO REMOVAL AREAS SHALL BE PRESERVED.
4. THE INFORMATION SHOWN FOR THE TEMPORARY SHEET PILING IS ESTIMATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DESIGN AND COMPUTATIONS OF THE TEMPORARY SHEET PILING AND ASSOCIATED MEMBERS, IF REQUIRED, SUBJECT TO APPROVAL OF THE ENGINEER.



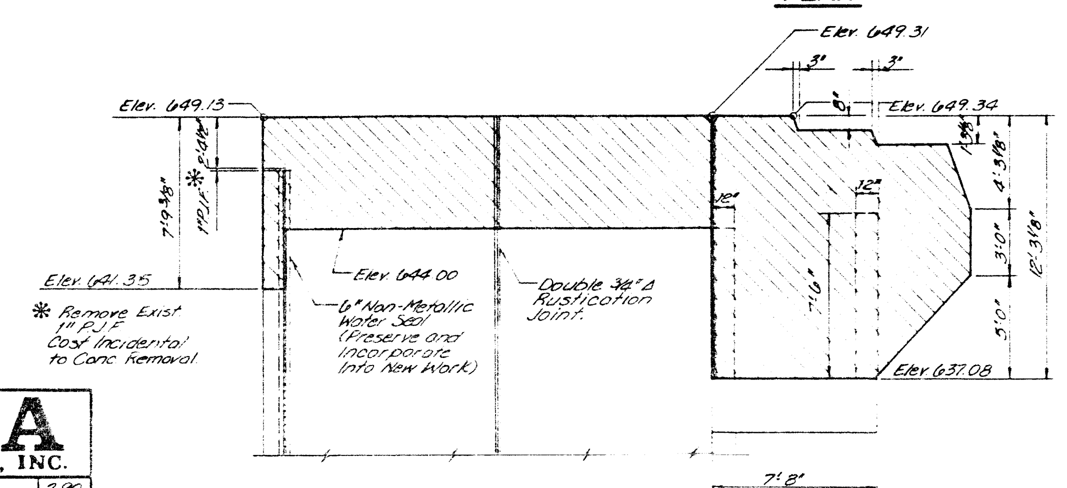
ELEVATION
(LOOKING WEST)



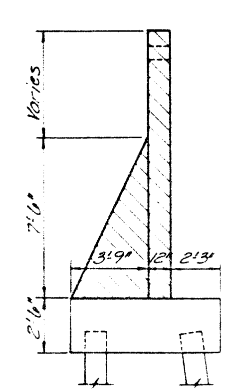
PLAN



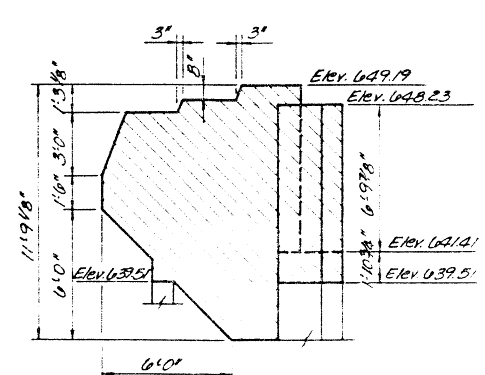
SECTION D-D



SECTION A-A



SECTION B-B



SECTION C-C

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yds.	21.8
Temporary Sheet Piling	Sq. Ft.	150
Structure Excavation	Cu. Yds.	69

WESTBOUND LANES
WEST ABUTMENT
CONCRETE REMOVAL
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1) BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JRF	2-90
DRAWN BY:	CJG	2-90
CHECKED BY:	RDP	2-90
APPROVED BY:	RDP	2-90

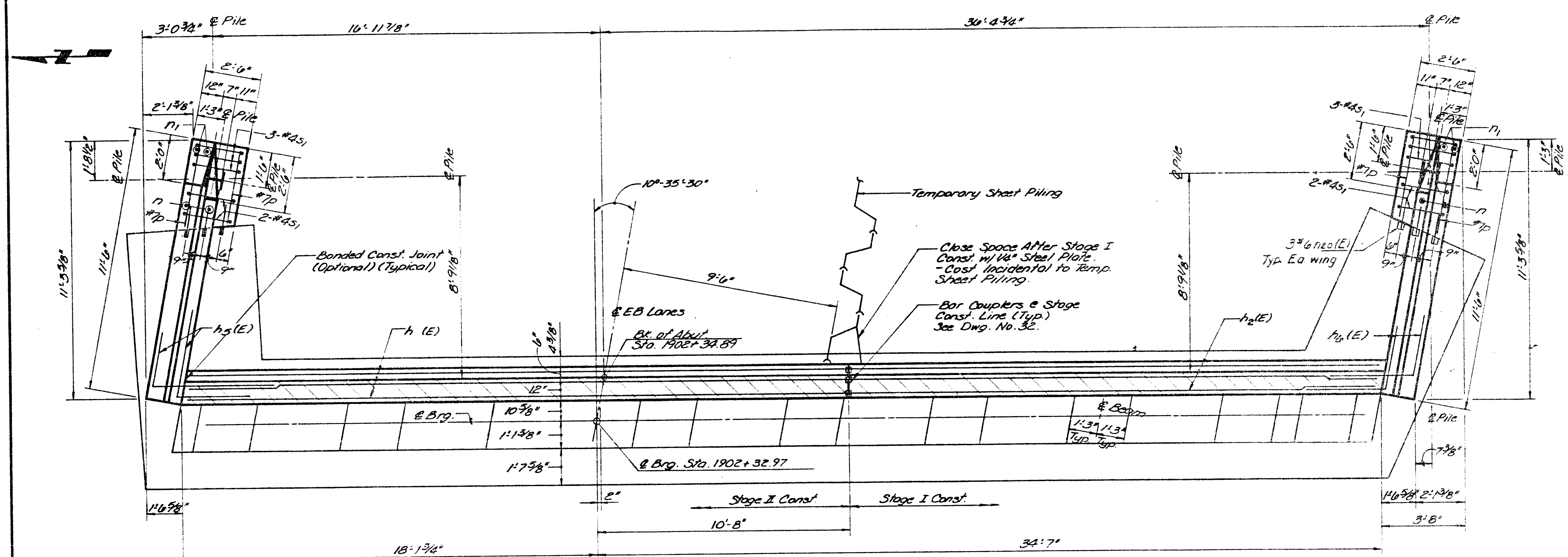
✻(92-11VB-1)BR

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI 74	✻	Vermilion	165	150

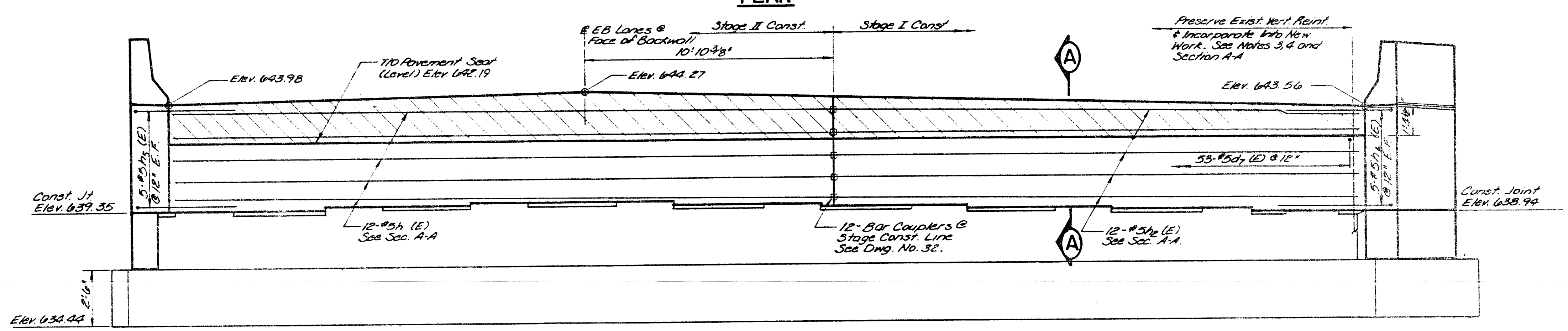
STA TO STA

FED ROAD DIST NO 7 | ILLINOIS | PROJECT

Dwg. No. 20 of 32



PLAN



ELEVATION

NOTES

1. SEE DWG. NO. 25 FOR BAR BENDING DETAILS AND WINGWALL DETAILS.
2. REINFORCEMENT BARS DESIGNATED (E) SHALL BE COATED.
3. EXISTING REINFORCEMENT EXTENDING INTO REMOVAL AREAS SHALL BE CLEANED, STRAIGHTENED OR BENT, REALIGNED AS REQUIRED, AND INCORPORATED INTO NEW CONSTRUCTION. COST INCIDENTAL TO CLASS X CONC.
4. CUT OFF EXCESS LENGTH OF EXISTING REINFORCEMENT BARS TO PROVIDE 1-1/2" CLR. COVER AS DIRECTED BY THE ENGINEER.
5. All bars this sheet to be epoxy coated

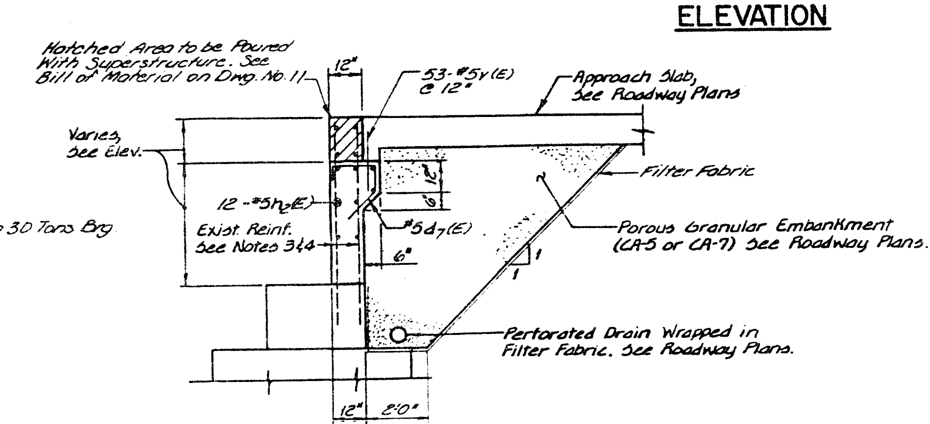
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
d_7 (E)	53	#5	4'-0"	
h (E)	12	#5	28'-5"	
h_2 (E)	12	#5	23'-1"	
h_5 (E)	10	#5	8'-0"	
h_6 (E)	10	#5	8'-0"	
h_7	16	#4	11'-2"	
h_8	16	#4	11'-2"	
h_9 (E)	10	#4	11'-2"	
h_{10} (E)	2	#4	11'-2"	
h_{20} (E)	6	#6	2'-9"	
n	2	#6	14'-0"	
n_1	12	#6	7'-8"	
p	12	#7	3'-8"	
s_1	10	#4	9'-5"	
v (E)	53	#5	2'-0"	
v_2 (E)	24	#6	7'-3"	
~~v_1 (E)~~	~~18~~	~~#6~~	~~7'-6"~~	
v_3 (E)	6	#6	6'-10"	
v_4	32	#6	6'-0"	

ITEM	UNIT	QUANTITY
Class X Concrete	Cu. Yds.	21.4
Reinf. Bars (Epoxy Coated)	Lbs.	2640
Structure Excavation	Cu. Yds.	14
Furnish Stl. Piles HP 10x42	Lin. Ft.	30
Driving Stl. Piles HP 10x42	Lin. Ft.	30
Filter Fabric	Sq. Yds.	65

PILE DATA

Type: Steel, HP 10x42
Capacity: 20 Tons Design, Driven to 30 Tons Brg.
No. Req'd.: 2
Est. Length: 15'



SECTION A-A

NOTE: Epoxy grout h_{20}(E) bars in 1" x 9" min. drilled holes. Use a grout approved by the Department or epoxy grout in accordance with [illegible]. The method of grout application shall be approved by the Engineer.

ESCA CONSULTANTS, INC.		
DESIGNED BY:	JRF	2-90
DRAWN BY:	CJG	2-90
CHECKED BY:	RDP	2-90
APPROVED BY:	RDP	2-90

EAST ABUTMENT
EASTBOUND LANES

FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012(WB)
STRUCTURE NO. 092-0013(EB)

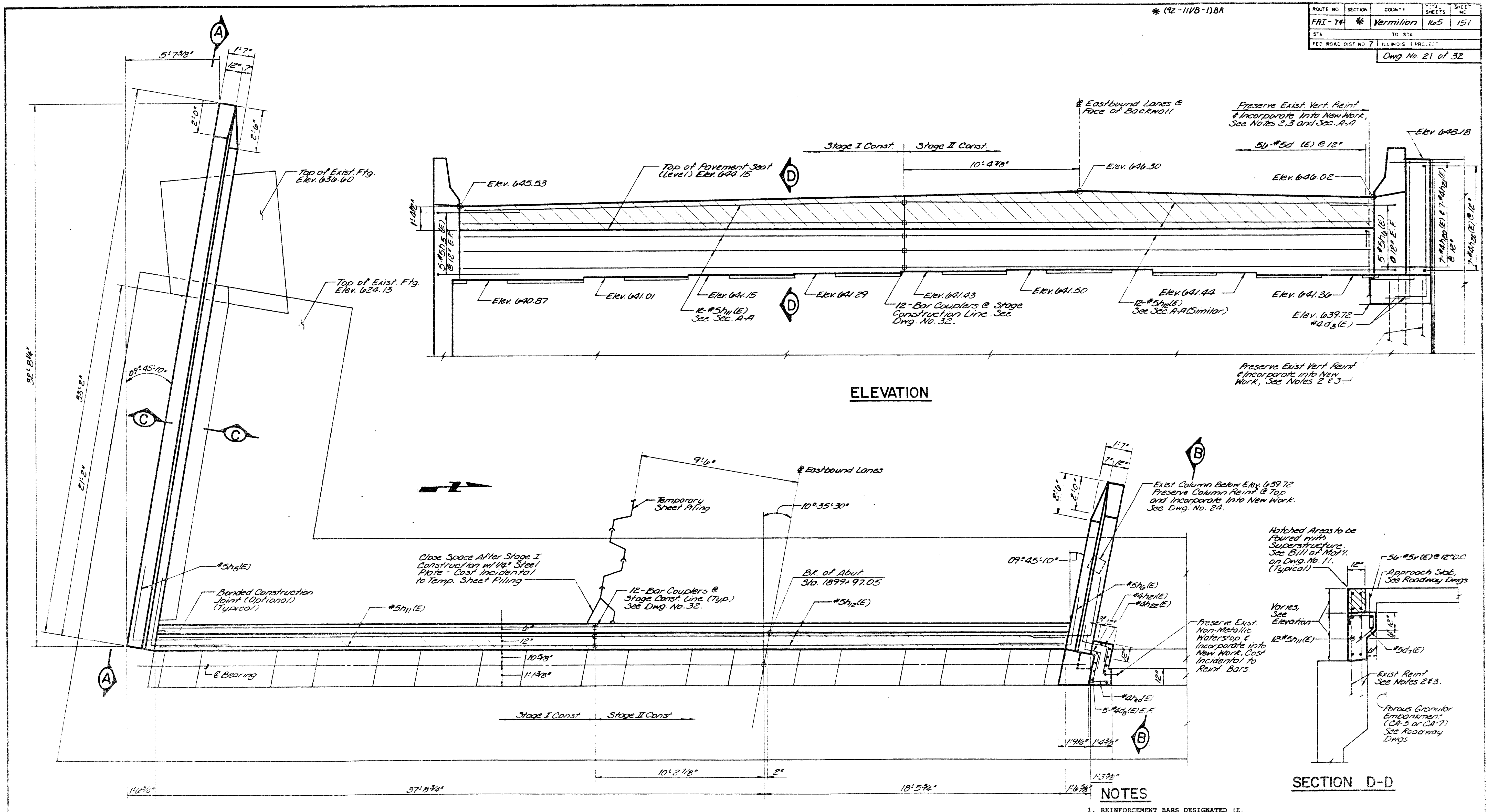
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	*	Vermilion	165	151

* (92-11VB-1)BR

STA TO STA

FED. ROAD DIST. NO. 7 ILLINOIS PROJECT

Dwg. No. 21 of 32



ELEVATION

PLAN

SECTION D-D

NOTES

1. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
2. EXISTING REINFORCEMENT EXTENDING INTO REMOVAL AREAS SHALL BE CLEANED, STRAIGHTENED OR BENT, REALIGNED AS REQUIRED, AND INCORPORATED INTO NEW CONSTRUCTION. COST INCIDENTAL TO CLASS X CONCRETE.
3. CUT OFF EXCESS LENGTH OF EXISTING REINFORCEMENT BARS TO PROVIDE 1 1/2" CLR. COVER AS DIRECTED BY THE ENGINEER.
4. SEE DWG. NO. 24 FOR BAR BENDING & WINGWALL DETAILS AND BILL OF MATERIAL.

WEST ABUTMENT
EASTBOUND LANES

FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION(92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012(WB)
STRUCTURE NO. 092-0013(EB)

ESCA CONSULTANTS, INC.

DESIGNED BY	JRF	2-90
DRAWN BY	CJS	2-90
CHECKED BY	KDR	2-90
APPROVED BY	RDP	2-90

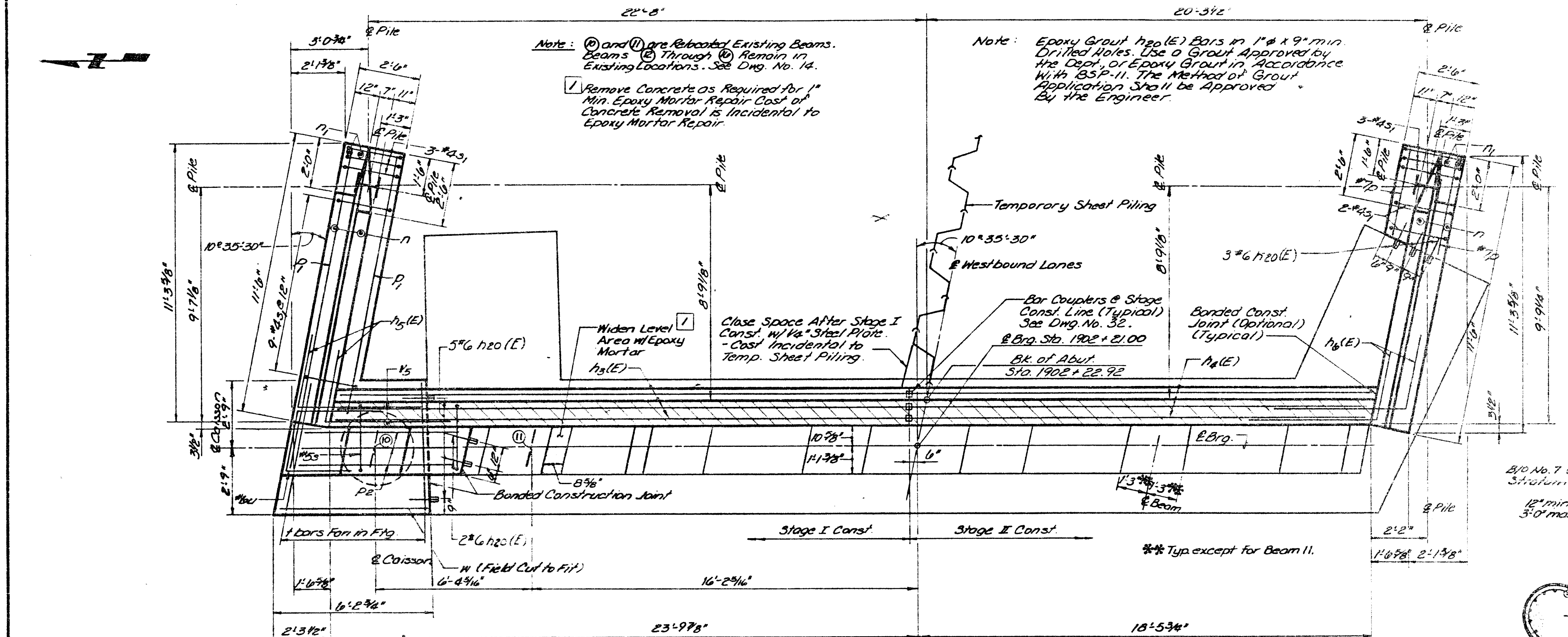
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI-74	3	Vermilion	165	152
STA		TO STA		
FED ROAD DIST NO 7	ILLINOIS	PROJECT		

Dwg. No. 22 of 32

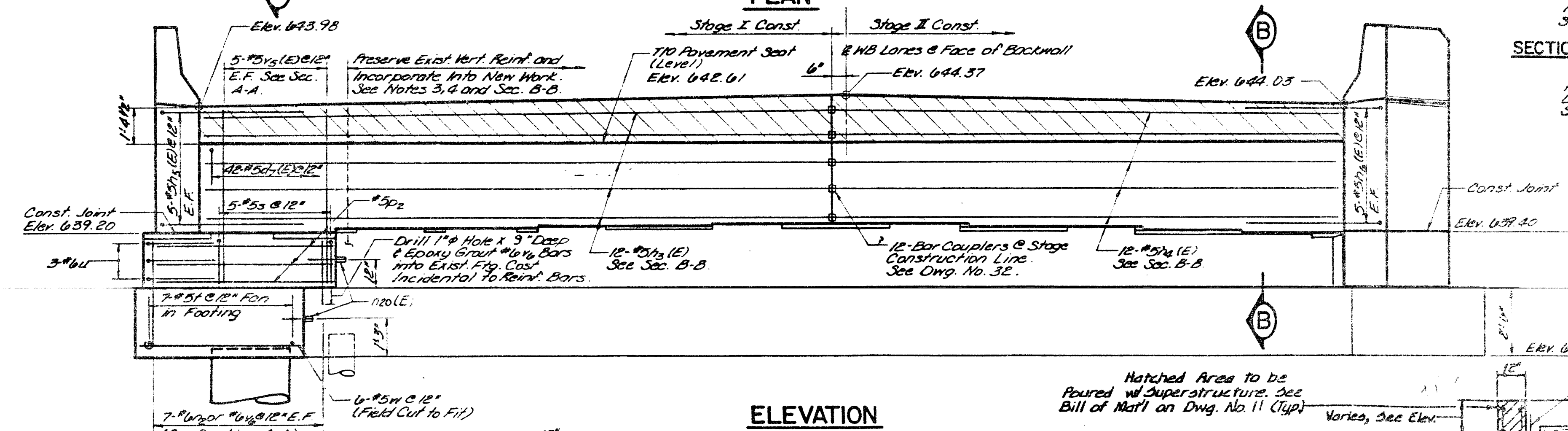
3 (92-IIVB-1)BR

NOTES

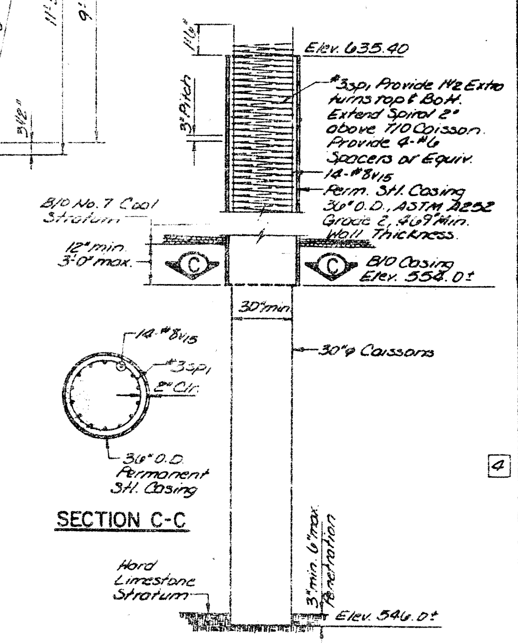
1. SPACE REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.
2. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
3. EXISTING REINFORCEMENT EXTENDING INTO REMOVAL AREAS SHALL BE CLEANED, STRAIGHTENED OR BENT, REALIGNED AS REQUIRED, AND INCORPORATED INTO NEW CONSTRUCTION. COST INCIDENTAL TO CLASS X CONCRETE.
4. CUT OFF EXCESS LENGTH OF EXISTING REINFORCEMENT BARS TO PROVIDE 1-1/2" CLR. COVER AS DIRECTED BY THE ENGINEER.
5. SEE DWG. NO. 25 FOR BAR BENDING DETAILS AND WINGWALL DETAILS.
6. All bars this sheet shall be epoxy coated.



PLAN



ELEVATION

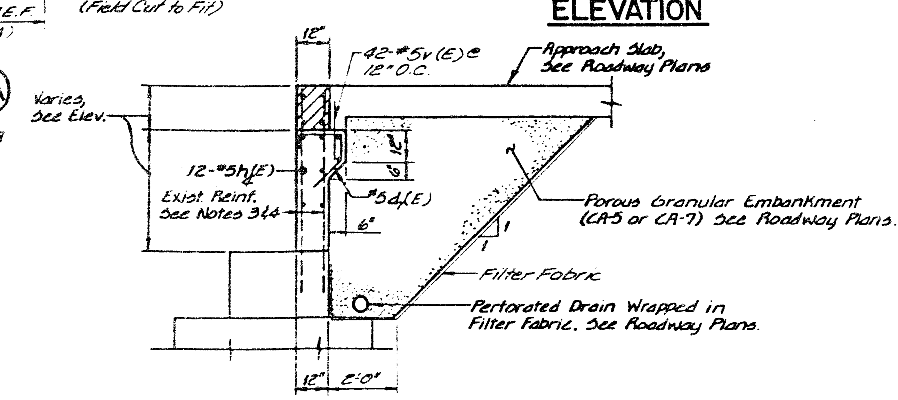


SECTION C-C

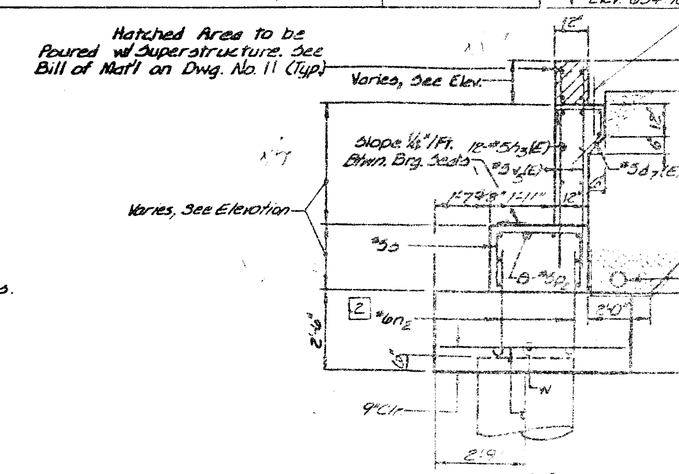
CAISSON DETAILS

PILE DATA

Type: HP 10x42
Capacity: 20 Tons Design Load Driven to 30 Tons Brg.
No. Req'd.: (1 Plus 1 Test)
Est. Length: 15'



SECTION B-B



SECTION A-A

2 #6v6 WHERE NEW BRG. SEAT SITS ON EXIST. FTG.; DRILL 1"ø x 9" DEEP HOLE & EPOXY GROUT IN PLACE. 12-#6n7 & 2-#6v6 REQUIRED. COST OF DRILLING AND GROUTING IS INCIDENTAL TO REINF. BARS. SEE SPECIAL PROVISIONS.

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
d_7(E)	42	#5	4'-0"	
h_3 (E)	12	#5	23'-2"	
h_4 (E)	12	#5	17'-8"	
h_5 (E)	10	#5	8'-0"	
h_6 (E)	10	#5	8'-0"	
h_7	16	#4	11'-2"	
h_8	16	#4	11'-2"	
h_9 (E)	10	#4	11'-2"	
h_{10} (E)	2	#4	11'-2"	
h_{20}(E)	10	#6	2'-9"	
n	10	#6	14'-0"	U
n_1	12	#6	7'-8"	J
n_2	12	#6	3'-8"	J
p_2	8	#5	6'-6"	
p_1	6	#7	14'-0"	
p	6	#7	3'-6"	
s	5	#5	5'-11"	
s_1	17	#4	9'-5"	
4 sp_1	1	#3	18'-0"	
t	7	#5	5'-2"	
u	3	#6	7'-9"	
v_{15}	14	#8	20'-0"	
v (E)	42	#5	2'-0"	
v_5 (E)	10	#5	6'-5"	
v_1 (E)	18	#6	7'-4"	
v_2 (E)	24	#6	7'-3"	
v_3 (E)	6	#6	6'-10"	
v_4	16	#6	6'-0"	
v_6	2	#6	3'-2"	
w	6	#5	5'-9"	

ITEM	UNIT	QUANTITY
Class X Concrete	Cu. Yds.	24.9
Reinf. Bars (Epoxy Coated)	Lbs.	4020
Expansion Bolts, 3/4"	Each	10
Test Pile, Steel HP10x42	Each	1
Furn. Steel Piles HP10x42	Lin. Ft.	15
Driving Steel Piles HP10x42	Lin. Ft.	15
Structure Excavation	Cu. Yds.	23
Epoxy Mortar Repair	Cu. Ft.	0.2
Filter Fabric	Sq. Yds.	50
Caisson Shaft, 30"	Cu. Ft.	39
Caisson Shaft, 36"	Cu. Ft.	572
Steel Casing, 36"	Lin. Ft.	82
Caisson Concrete	Cu. Yds.	22.8

4 Quantity Includes total Length of bar in Spiral (602'-1") & The 4-#6 Spacers

ESCA CONSULTANTS, INC.

DESIGNED BY:	JRF	1/90
DRAWN BY:	CJG	1/90
CHECKED BY:	RDP	1/90
APPROVED BY:	RDP	1/90

EAST ABUTMENT
WESTBOUND LANES

FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION(92-IIVB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012(WB)
STRUCTURE NO. 092-0013(EB)

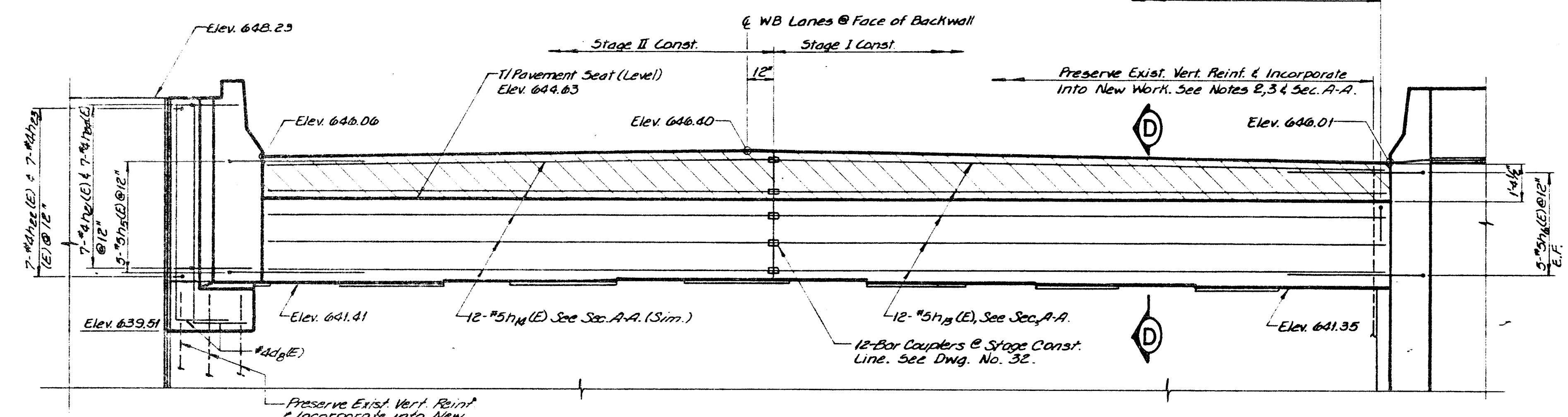
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI-74	*	Vermilion	165	153

* (92 - 11VB-1)BR

STA TO STA

FED ROAD DIST NO 7 | ILLINOIS | PROJECT

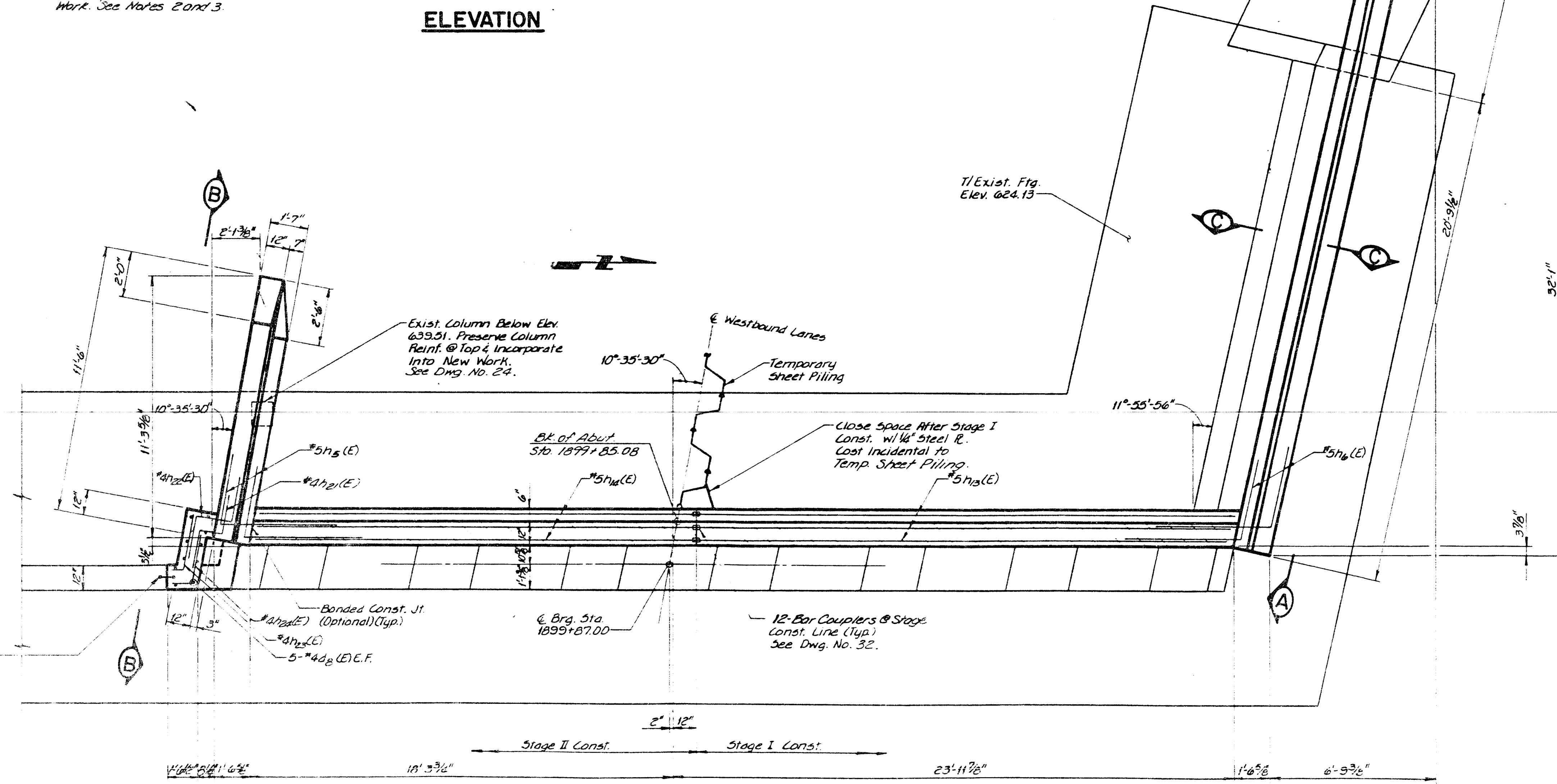
Dwg. No. 23 of 32



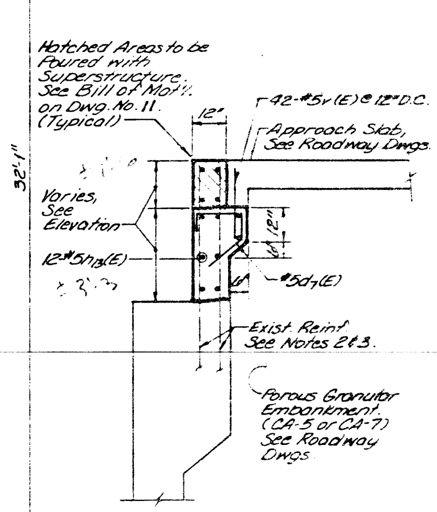
ELEVATION

NOTES

1. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
2. EXISTING REINFORCEMENT EXTENDING INTO REMOVAL AREAS SHALL BE CLEANED, STRAIGHTENED OR BENT, REALIGNED AS REQUIRED, AND INCORPORATED INTO NEW CONSTRUCTION. COST INCIDENTAL TO CLASS X CONCRETE.
3. CUT OFF EXCESS LENGTH OF EXISTING REINFORCEMENT BARS TO PROVIDE 1 1/2" CLR. COVER AS DIRECTED BY THE ENGINEER.
4. SEE DWG. NO. 24 FOR BAR BENDING & WINGWALL DETAILS & BILL OF MATERIAL.



PLAN



SECTION D-D

ESCA CONSULTANTS, INC.

DESIGNED BY:	JRF	2-90
DRAWN BY:	GGB	2-90
CHECKED BY:	RDP	2-90
APPROVED BY:	RDP	2-90

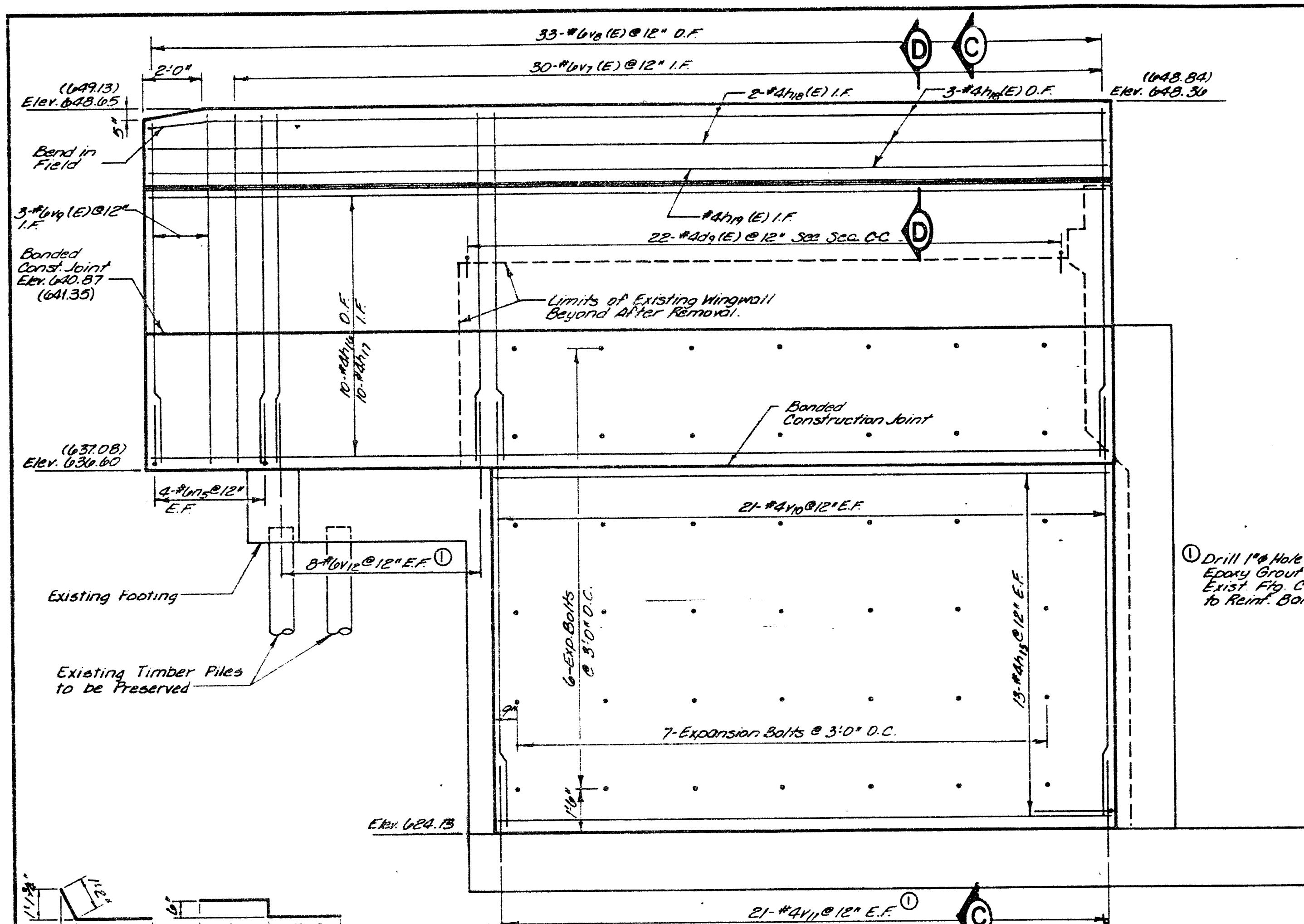
WEST ABUTMENT
WESTBOUND LANES

FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

*(92-11VB-1)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	*	Vermilion	1165	154
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

Dwg. No. 24 of 32

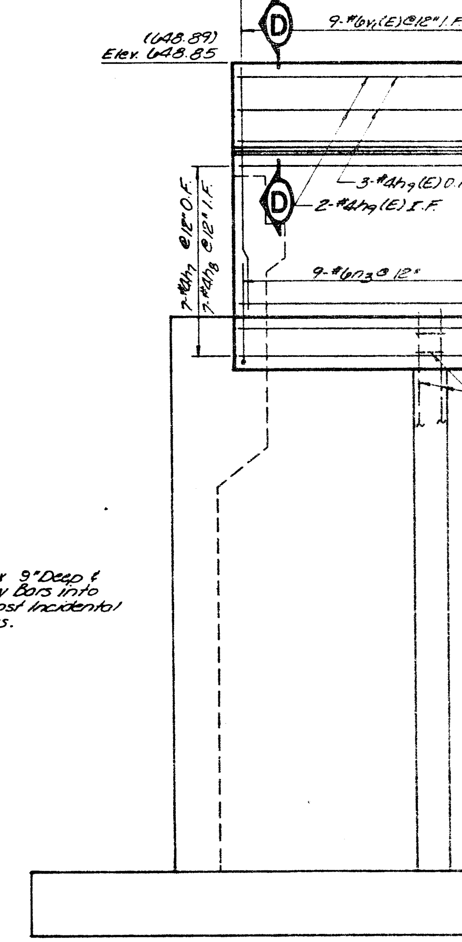


① Drill 1"⌀ Hole x 9" Deep & Epoxy Grout v Bars into Exist. Ftg. Cost Incidental to Reinf. Bars.

SECTION A-A

(WEST ABUTMENT, E.B. LANES, SOUTH WING SHOWN; WEST ABUTMENT, W.B. LANES, NORTH WING OPPOSITE HAND)

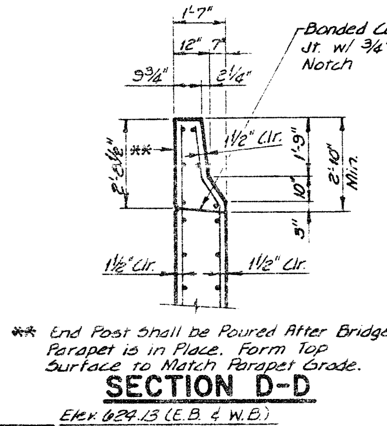
NOTE: ELEVATIONS SHOWN ARE FOR E.B. LANES.
ELEVATIONS IN PARENTHESES ( ) ARE FOR W.B. LANES.



SECTION B-B

(WEST ABUTMENT, E.B. LANES, NORTH WING SHOWN; WEST ABUTMENT, W.B. LANES, SOUTH WING OPPOSITE HAND)

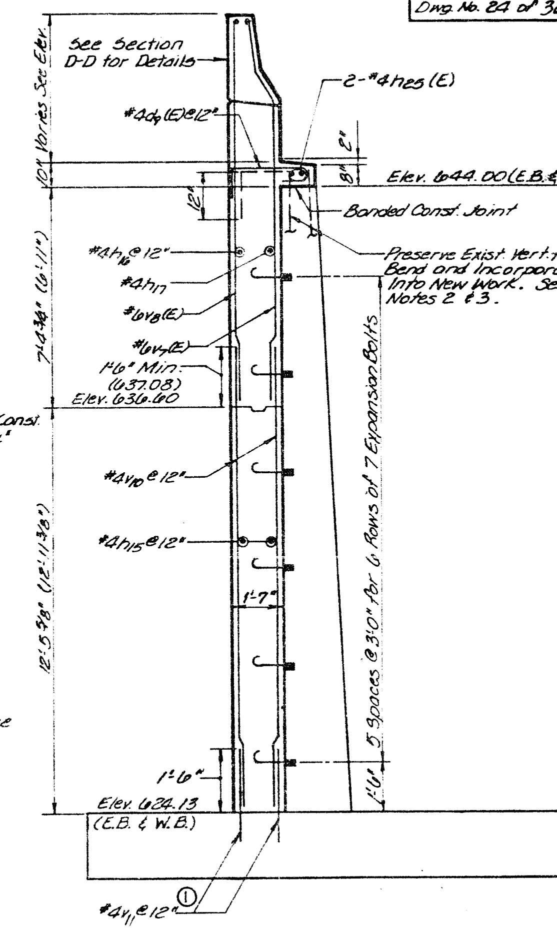
NOTE: ELEVATIONS SHOWN ARE FOR E.B. LANES.
ELEVATIONS IN PARENTHESES ( ) ARE FOR W.B. LANES.



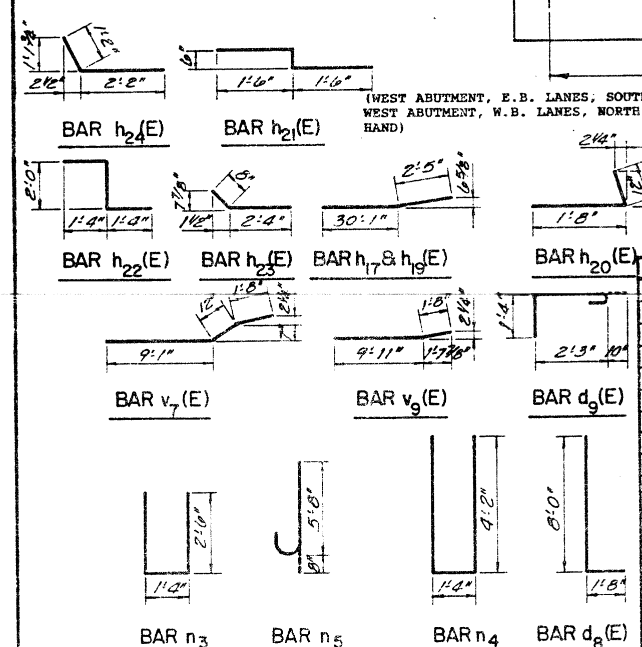
** End Post Shall be Poured After Bridge Parapet is in Place. Form Top Surface to Match Parapet Grade.

SECTION D-D

Elev. 624.13 (E.B. & W.B.)



SECTION C-C



BAR BENDING DETAILS

BILL OF MATERIAL – EASTBOUND LANES – WEST ABUTMENT

BAR	NO.	SIZE	LENGTH	SHAPE	BAR	NO.	SIZE	LENGTH	SHAPE
d_7 (E)	56	#5	4'0"		v_2 (E)	12	#6	7'3"	
d_8 (E)	10	#4	9'8"	L	v_3 (E)	3	#6	6'10"	
d_9 (E)	22	#4	4'5"		v_7 (E)	30	#6	11'9"	
h_{11} (E)	12	#5	26'10"		v_8 (E)	33	#6	11'7"	
h_{12} (E)	12	#5	28'2"		v_9 (E)	3	#6	11'7"	
h_5 (E)	10	#5	8'0"		v_{10}	42	#4	14'6"	
h_6 (E)	10	#5	8'0"		v_{11}	42	#4	2'6"	
h_7	7	#4	11'2"		v_{12}	16	#6	4'0"	
h_8	7	#4	11'2"		v (E)	56	#5	2'0"	
h_9 (E)	5	#4	11'2"		v_1 (E)	9	#6	7'4"	
h_{10} (E)	1	#4	11'2"						
h_{15}	26	#4	20'8"						
h_{16}	10	#4	32'6"						
h_{17}	10	#4	32'6"						
h_{18} (E)	5	#4	32'6"		**ITEM**			**UNIT**	**QUANTITY**
h_{19} (E)	1	#4	32'6"		Class X Concrete			Cu. Yds	53.9
h_{20} (E)	7	#4	2'8"						
h_{21} (E)	7	#4	3'6"		Reinf. Bars (Epoxy Coated)			Lbs.	4730
h_{22} (E)	7	#4	4'8"		Structure Excavation			Cu. Yds.	39
h_{25} (E)	2	#4	21'8"		Expansion Bolts, 3/4"⌀			Each	42
n_3	9	#6	9'8"	U					
n_4	6	#6	4'10"	J					
n_5	8	#6	6'4"	U					

BILL OF MATERIAL – WESTBOUND LANES – WEST ABUTMENT

BAR	NO	SIZE	LENGTH	SHAPE	BAR	NO	SIZE	LENGTH	SHAPE
d_7 (E)	42	#5	4'0"		n_5	8	#6	6'4"	U
d_8 (E)	10	#4	9'8"	L					
d_9 (E)	22	#4	4'5"		v (E)	42	#5	2'0"	
					v_1 (E)	9	#6	7'4"	
h_{13} (E)	12	#5	22'6"		v_2 (E)	12	#6	7'3"	
h_{14} (E)	12	#5	18'9"		v_3 (E)	3	#6	6'10"	
h_5 (E)	10	#5	8'0"		v_7 (E)	30	#6	11'9"	
h_6 (E)	10	#5	8'0"		v_8 (E)	33	#6	11'7"	
h_7	7	#4	11'2"		v_9 (E)	3	#6	11'7"	
h_8	7	#4	11'2"		v_{10}	42	#4	14'6"	
h_9 (E)	5	#4	11'2"		v_{11}	42	#4	2'6"	
h_{10} (E)	1	#4	11'2"		v_{12}	16	#6	4'0"	
h_{15}	26	#4	20'8"						
h_{16}	10	#4	32'6"						
h_{17}	10	#4	32'6"		**ITEM**			**UNIT**	**QUANTITY**
h_{18} (E)	5	#4	32'6"		Class X Concrete			Cu. Yds.	51.7
h_{19} (E)	1	#4	32'6"						
h_{23} (E)	7	#4	3'0"		Reinf. Bars (Epoxy Coated)			Lbs	4480
h_{24} (E)	7	#4	3'4"		Structure Excavation			Cu. Yds.	39
h_{21} (E)	7	#4	3'6"		Expansion Bolts, 3/4"⌀			Each	42
h_{22} (E)	7	#4	4'8"						
h_{25} (E)	2	#4	21'8"						
n_3	9	#6	9'8"	U					
n_4	6	#6	4'10"	J					

NOTES

1. SEE DWG. NO. 25 FOR ADDITIONAL BAR BENDING DETAILS.
2. All bars this sheet shall be epoxy coated.

ESCA CONSULTANTS, INC.

DESIGNED BY:	JRF	2-90
DRAWN BY:	PDV/CJG	2-90
CHECKED BY:	KMR	2-90
APPROVED BY:	RDP	2-90

WEST ABUTMENTS WINGWALL DETAILS

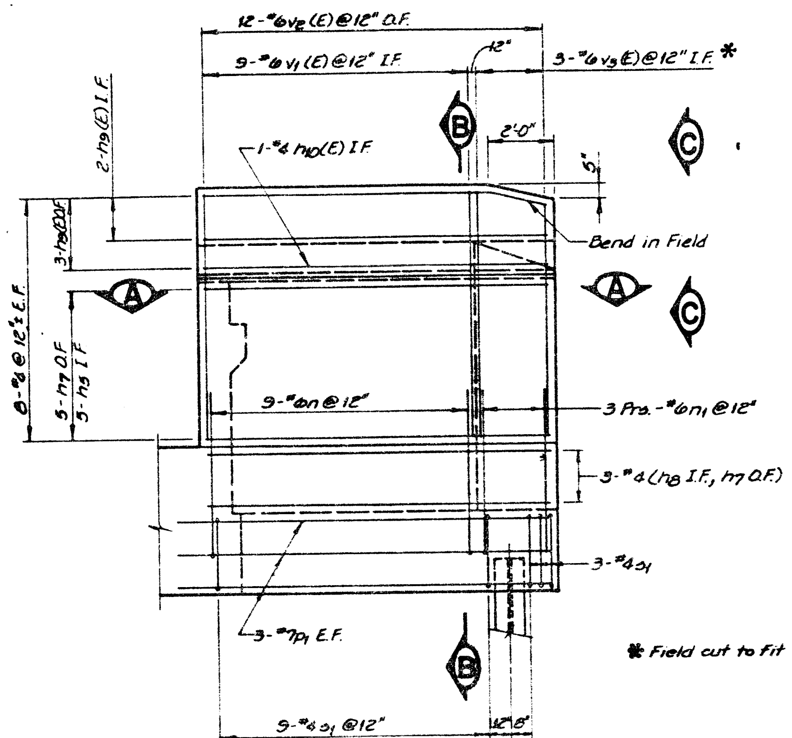
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	*	Vermilion	165	155

* (92-11VB-1)BR

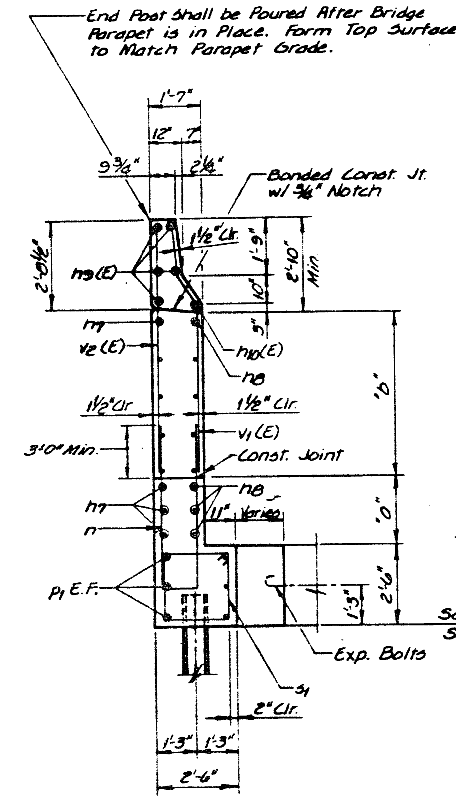
FED. ROAD DIST. NO. 7 ILLINOIS

Dwg. No. 25 of 32

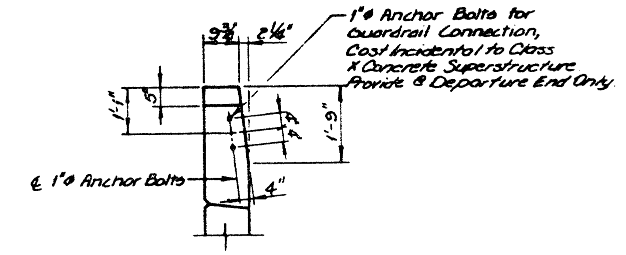


WING WALL ELEVATION (E. ABUT.)

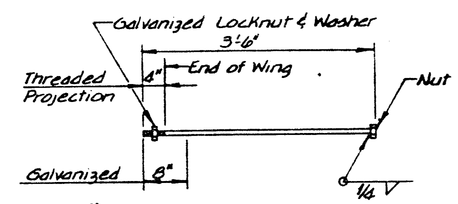
(South Wing EB Bridge; North Wing WB Bridge)



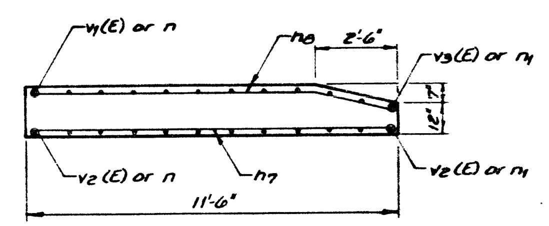
SECTION B-B



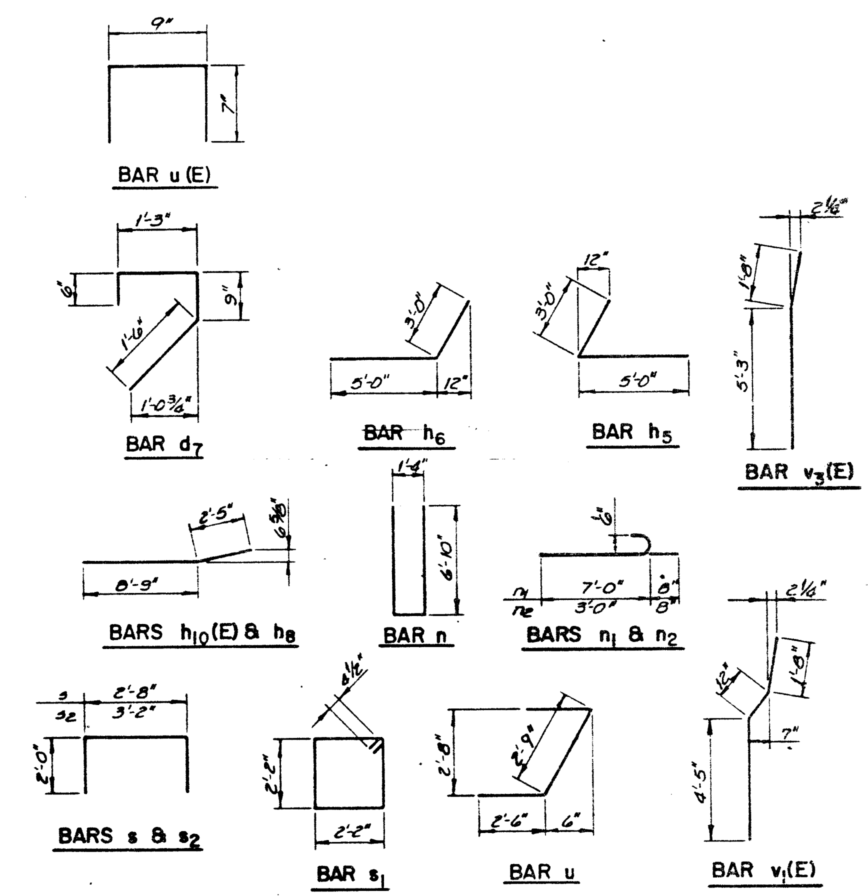
SECTION C-C



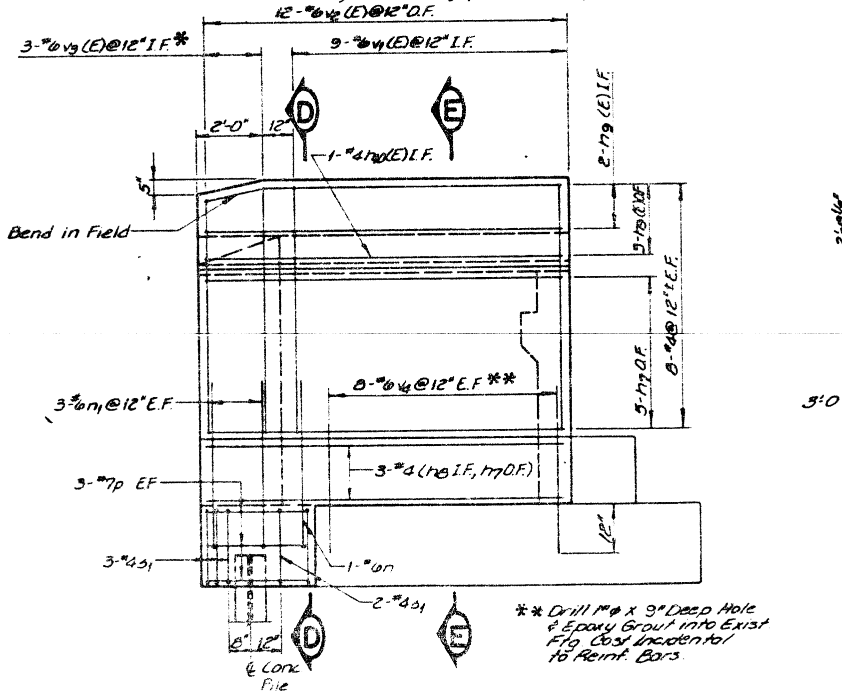
1" DIA. ANCHOR BOLT



SECTION A-A

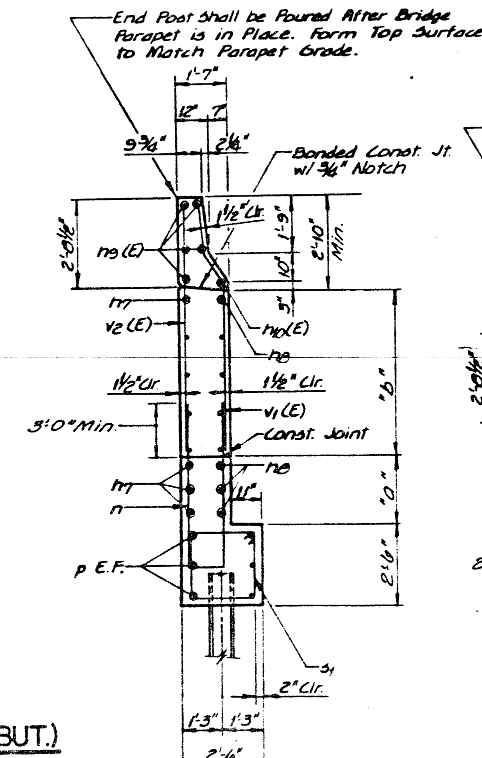


BAR BENDING DETAILS

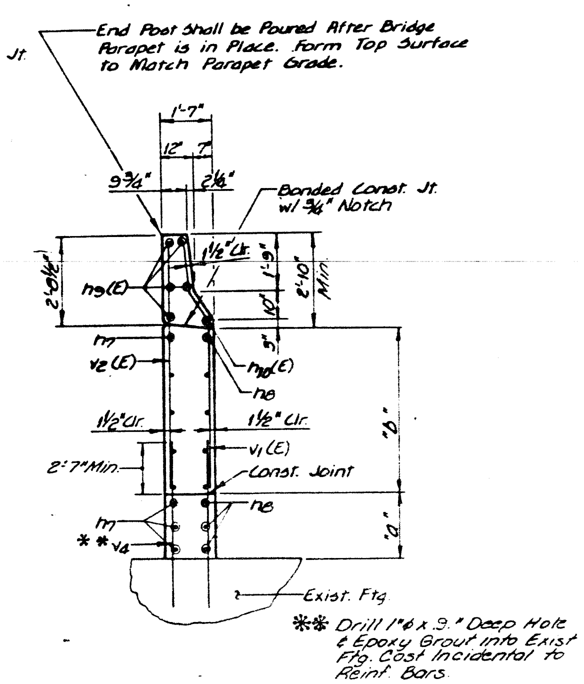


WING WALL ELEVATION (E. ABUT.)

(North Wing EB Bridge; South Wing WB Bridge)



SECTION D-D



SECTION E-E

TABLE OF DIMENSIONS

Location	"a"	"b"
EB Bridge South Wing	2'-0"	4'-7½"
EB Bridge North Wing	2'-4 7/8"	4'-7½"
WB Bridge South Wing	2'-0"	4'-7½"
WB Bridge North Wing	1'-9 3/8"	4'-9 3/8"

All bars this sheet shall be epoxy coated.

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	6-89
DRAWN BY:	GGB	6-89
CHECKED BY:	JRF	7-89
APPROVED BY:	RDP	7-89

ABUTMENT DETAILS

FAI 74 OVER CONRAIL

FAI RTE. 74 SECTION (92-11VB-1)BR

VERMILION COUNTY

STATION 1900+80.59

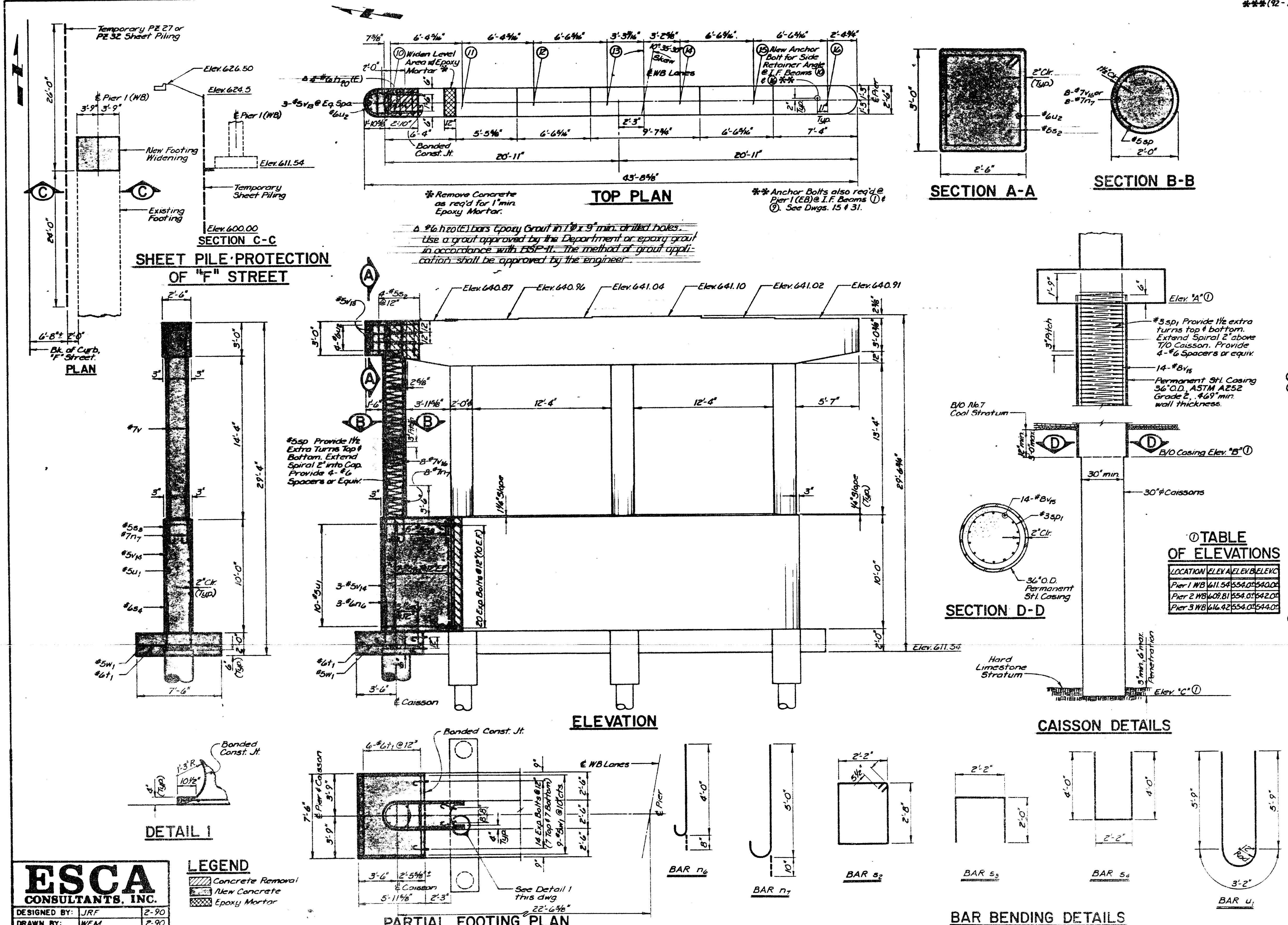
STRUCTURE NO. 092-0012(WB)

STRUCTURE NO. 092-0013(EB)

***(92-11VB-1)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	***	Vermilion	165	156
STA		TO STA		
FED ROAD DIST NO 7	ILLINOIS	PROJECT		

Dwg. No. 26 of 32



NOTES

1. SPACE REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.
2. CHAMFER EDGES 3/4".
3. All reinforcement bars on this sheet Epoxy Coated.

BILL OF MATERIAL

	BAR	No.	SIZE	LENGTH	SHAPE
	n_6	3	#6	4'-8"	
	n_7	8	#7	5'-10"	
	$h_{20}(E)$	4	#6	2'-9"	
	p_3	8	#6	3'-0"	
	s_2	4	#5	10'-7"	
	s_3	5	#5	6'-2"	
	s_4	3	#6	10'-2"	
②	sp	1	#5	14'-6"	
②	sp_1	1	#3	18'-0"	
	t_1	6	#6	7'-0"	
	u_1	10	#5	14'-8"	
	u_2	4	#6	9'-10"	
	v_{13}	3	#5	2'-6"	
	v_{14}	17	#5	9'-8"	
	v_{15}	14	#8	20'-0"	
	v_{16}	8	#7	17'-0"	
	w_1	9	#5	5'-8"	

	ITEM	UNIT	QUANTITY
	Concrete Removal	Cu. Yds.	0.9
	Structure Excavation	Cu. Yds.	22
	Class X Concrete	Cu. Yds.	11.8
③	Reinf. Bars (Epoxy Coated)	Lbs.	2560
	Expansion Bolts, 3/4" ∅	Each	34
	Caisson Shaft, 30"	Cu. Ft.	69
	Caisson Shaft, 36"	Cu. Ft.	410
	Steel Casing, 36"	Lin. Ft.	58
	Caisson Concrete	Cu. Yds.	16.9
	Temporary Sheet Piling	Sq. Ft.	1225
	Epoxy Mortar Repair	Cu. Ft.	0.2

② Length = Total Height of Spiral

③ Quantity includes total length of bar in spiral (322'-8" for sp & 602'-7" for sp_1) & the 4-#6 Spacers.

① TABLE OF ELEVATIONS

LOCATION	ELEV. A	ELEV. B	ELEV. C
Pier 1 WB	611.54	554.0±	540.0±
Pier 2 WB	609.81	554.0±	542.0±
Pier 3 WB	616.42	554.0±	544.0±

LEGEND

- Concrete Removal
- New Concrete
- Epoxy Mortar

ESCA CONSULTANTS, INC.

DESIGNED BY:	JRF	2-90
DRAWN BY:	WEM	2-90
CHECKED BY:	RDP	3-90
APPROVED BY:	RDP	3-90

PIER 1 (WB)
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

**(92-11VB-1)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	**	Vermilion	165	157
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

Dwg No. 27 of 32

NOTES

1. SPACE REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.
2. CHAMFER EDGES 3/4".
3. SEE DWG. NO. 26 FOR CAISSON DETAILS AND ADDITIONAL BAR BENDING DETAILS.
4. ~~All reinforcement bars on this sheet Epoxy Coated.~~

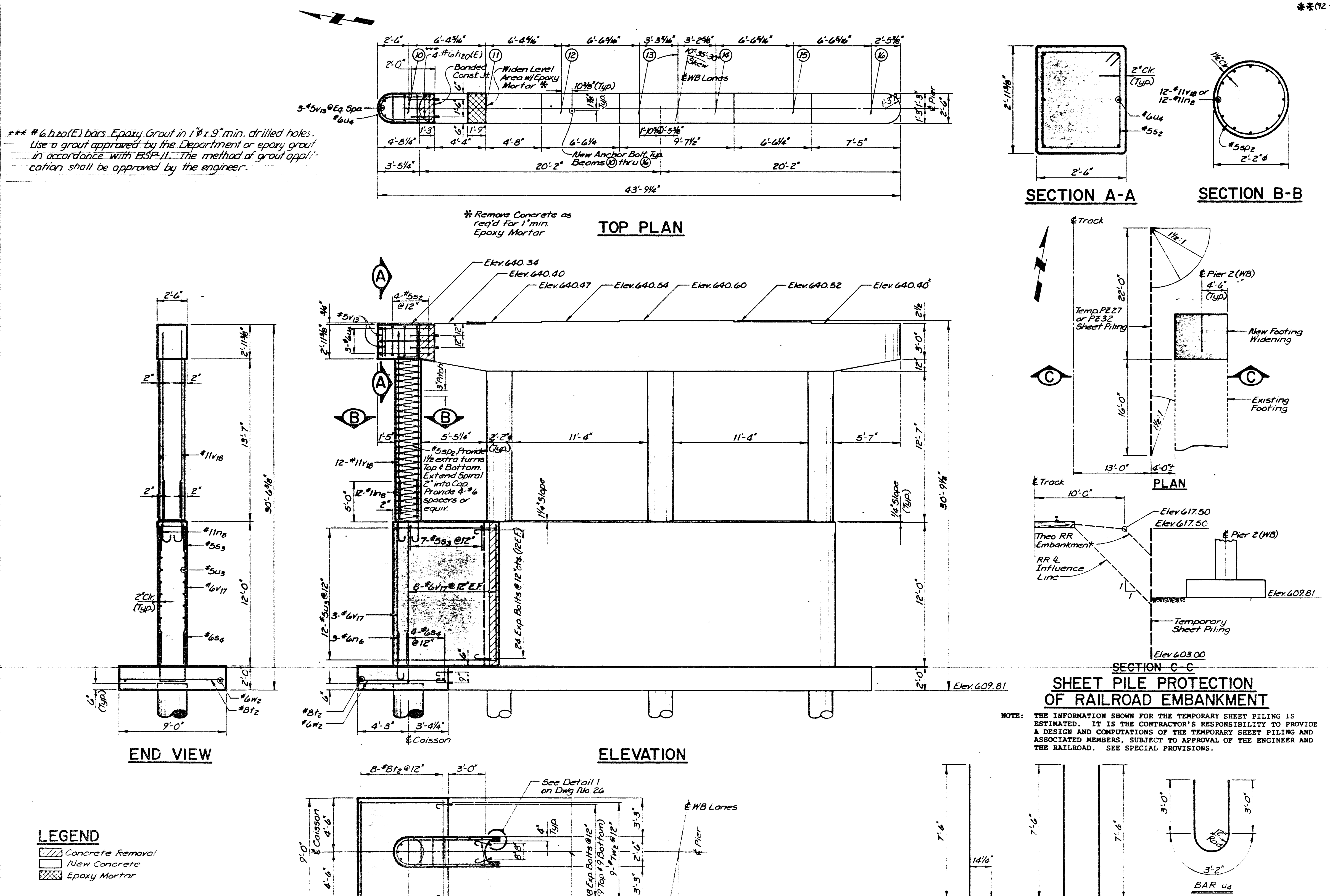
BILL OF MATERIAL

	BAR	Nº	SIZE	LENGTH	SHAPE
	n_6	3	#6	4'-8"	J
	n_8	12	#11	9'-3"	J
	$h_{20}(E)$	4	#6	2'-9"	—
	p	8	#6	3'-0"	—
	s_2	4	#5	10'-7"	
	s_3	7	#5	6'-2"	
	s_4	4	#6	10'-2"	
①	sp_1	1	#3	18'-0"	
①	sp_2	1	#5	13'-9"	
	t_2	8	#8	8'-6"	—
	u_3	12	#5	18'-2"	
	u_4	3	#6	9'-2"	
	v_{13}	3	#5	2'-6"	—
	v_{17}	19	#6	11'-8"	—
	v_{15}	14	#8	20'-0"	—
	v_{18}	12	#11	16'-0"	—
	w_2	9	#7	7'-2"	—

	ITEM	UNIT	QUANTITY
	Concrete Removal	Cu. Yds.	0.5
	Structure Excavation	Cu. Yds.	19
	Temporary Sheet Piling	Sq. Ft.	551
	Class X Concrete	Cu. Yds.	17.0
②	Reinf. Bars (Epoxy Coated)	Lbs.	4200
	Expansion Bolts, 3/4" ϕ	Each	42
	Caisson Shaft, 30"	Cu. Ft.	59
	Caisson Shaft, 36"	Cu. Ft.	396
	Steel Casing, 36"	Lin. Ft.	56
	Caisson Concrete	Cu. Yds.	16.1
	Epoxy Mortar Repair	Cu. Ft.	0.4

① Length = Total Height of Spiral

② Quantity includes total length of bar in spiral (336'-7" for sp_2 & 602'-1" for sp_1) & the 4-#6 Spacers.



NOTE: THE INFORMATION SHOWN FOR THE TEMPORARY SHEET PILING IS ESTIMATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DESIGN AND COMPUTATIONS OF THE TEMPORARY SHEET PILING AND ASSOCIATED MEMBERS, SUBJECT TO APPROVAL OF THE ENGINEER AND THE RAILROAD. SEE SPECIAL PROVISIONS.

ESCA CONSULTANTS, INC.

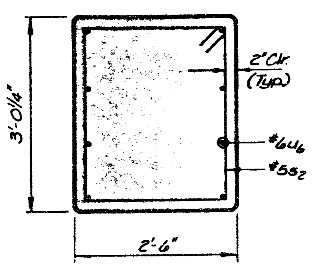
DESIGNED BY	JRF	2-90
DRAWN BY	WEM	2-90
CHECKED BY	RDP	3-90
APPROVED BY	RDP	3-90

PIER 2(WB)
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION(92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012(WB)
STRUCTURE NO. 092-0013(EB)

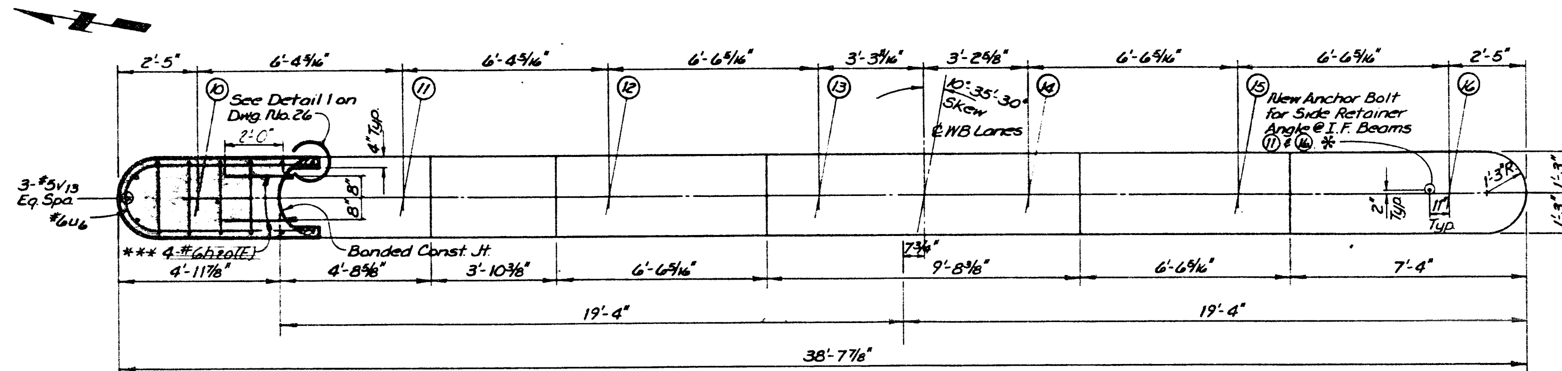
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI-74	**	Vermilion	165	158
STA		TO STA		
FED ROAD DIST NO 7	ILLINOIS	PROJECT		

Dwg No 28 of 32

**(92-11VB-1)BR

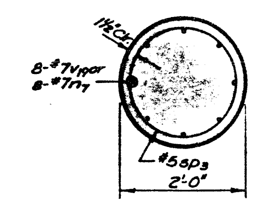


SECTION A-A



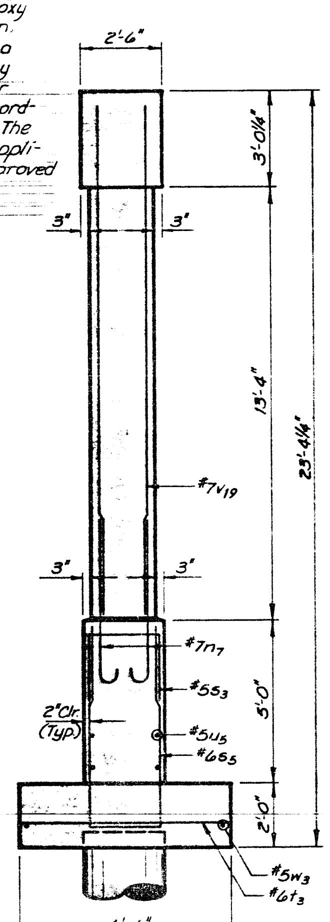
TOP PLAN

*Anchor Bolts also req'd @ Pier 3 (EB) @ I.F. Beams ① & ⑨. See Dwgs. 15 & 31.

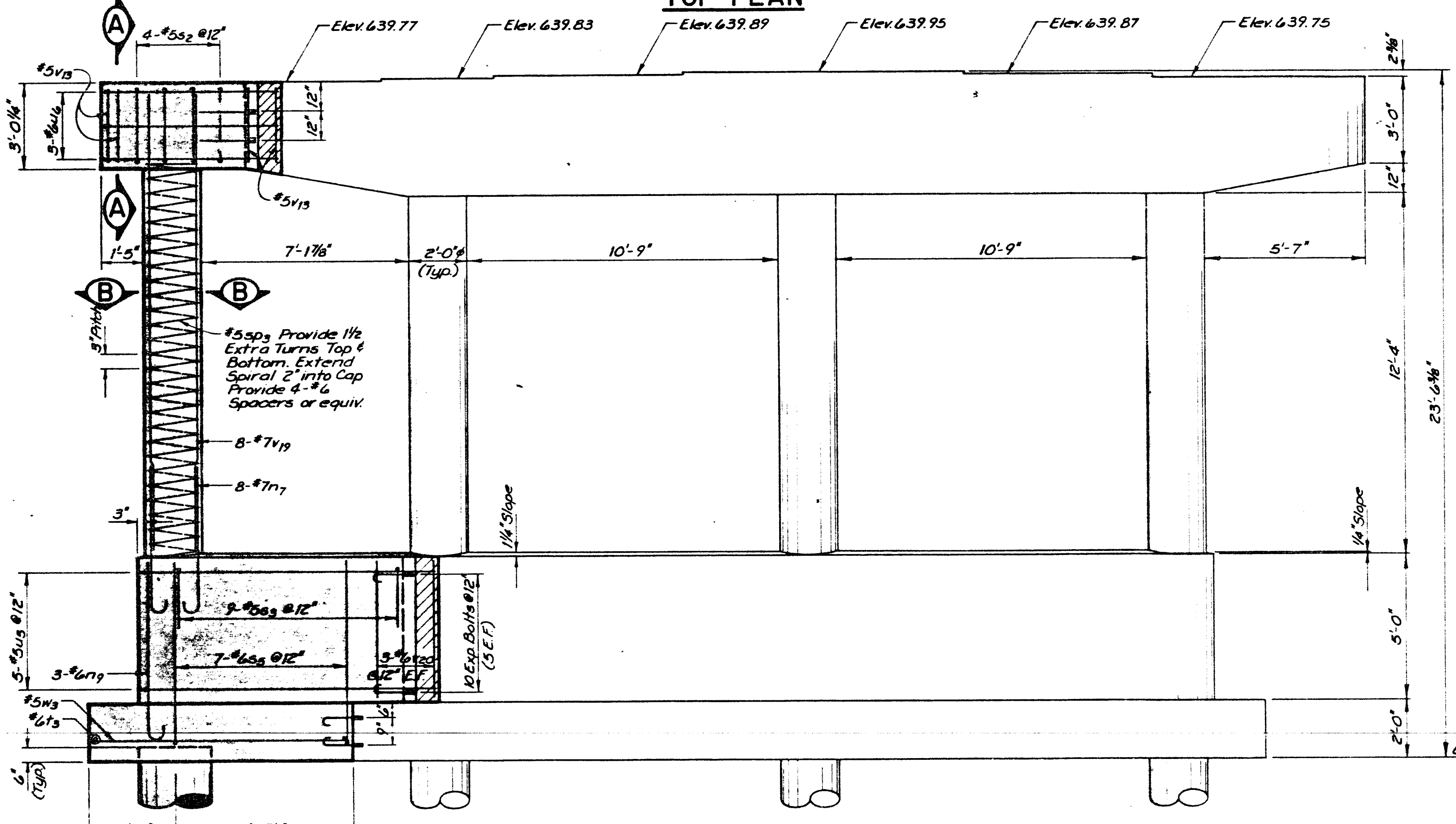


SECTION B-B

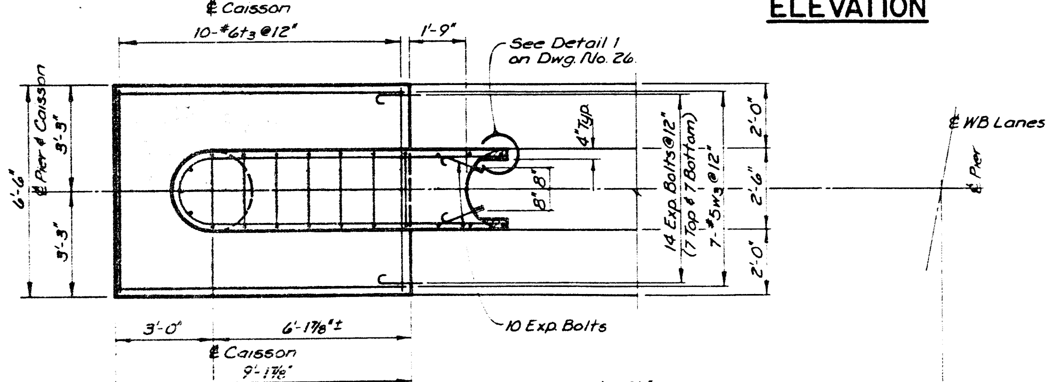
***#6h20(E) bars Epoxy Grout in 1"Ø x 9" min. drilled holes. Use a grout approved by the Department or epoxy grout in accordance with BSP-11. The method of grout application shall be approved by the engineer.



END VIEW



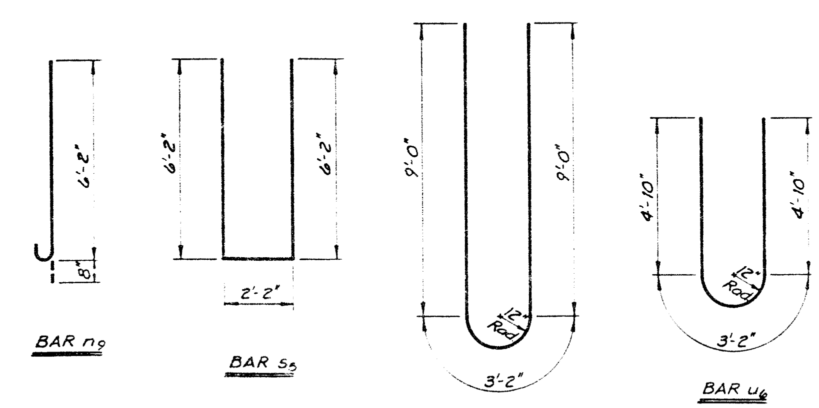
ELEVATION



PARTIAL FOOTING PLAN

LEGEND

▨ Concrete Removal
▭ New Concrete



BAR BENDING DETAILS

NOTES

1. SPACE REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.
2. CHAMFER EDGES 3/4".
3. SEE DWG. NO. 26 FOR CAISSON DETAILS AND ADDITIONAL BAR BENDING DETAILS.
4. All reinforcement bars on this sheet Epoxy Coated.

BILL OF MATERIAL

	BAR	N°	SIZE	LENGTH	SHAPE
	n_9	3	#6	6'-10"	J
	n_7	8	#7	5'-10"	J
	$h_{20}(E)$	4	#6	2'-9"	—
	p	8	#6	4'-8"	—
	s_2	5	#5	10'-7"	□
	s_3	9	#5	6'-2"	⊓
	s_5	7	#6	14'-6"	⊔
①	sp_1	1	#3	18'-0"	spiral
①	sp_3	1	#5	13'-6"	spiral
	t_3	10	#6	6'-0"	—
	u_5	5	#5	21'-2"	⊃
	u_6	3	#6	12'-10"	⊃
	v_{13}	7	#5	2'-6"	—
	v_{15}	14	#8	20'-0"	—
	v_{19}	8	#7	16'-0"	—
	v_{20}	6	#6	4'-8"	—
	w_3	7	#5	8'-8"	—

	ITEM	UNIT	QUANTITY
	Concrete Removal	Cu. Yds.	0.1
	Structure Excavation	Cu. Yds.	17
	Class X Concrete	Cu. Yds.	11.6
②	Reinf. Bars (Epoxy Coated)	Lbs.	2590
	Expansion Bolts, ¾" ø	Each	24
	Caisson Shaft, 30"	Cu. Ft.	49
	Caisson Shaft, 36"	Cu. Ft.	438
	Steel Casing, 36"	Lin. Ft.	63
	Caisson Concrete	Cu. Yds.	17.4

① Length = Total Height of Spiral.

② Quantity includes total length of bar in spiral (301'-4" for sp_3 & 602'-1" for sp_1) & the 4-#6 Spacers.

ESCA CONSULTANTS, INC.

DESIGNED BY:	JRF	2-90
DRAWN BY:	WEM	2-90
CHECKED BY:	RDP	3-90
APPROVED BY:	RDP	3-90

PIER 3 (WB)
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)

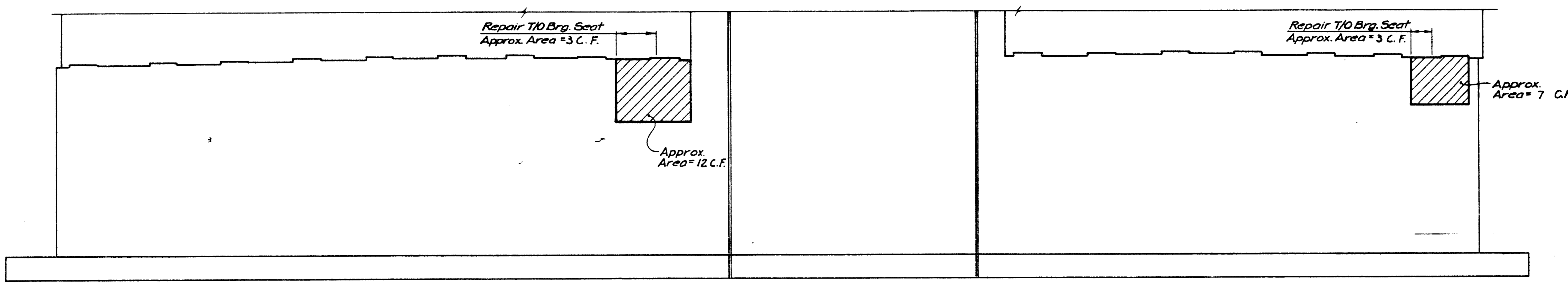
* (92-11VB-1)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	*	Vermilion	165	159
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT	

Dwg. No. 29 of 32

NOTES

1. REPAIR LOCATIONS SHOWN ARE APPROXIMATE AND MUST BE VERIFIED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL NOT COMMENCE ANY REMOVAL RELATED TO EPOXY MORTAR REPAIR UNTIL APPROVED BY THE ENGINEER.



ELEVATION OF WEST ABUTMENTS

(Looking West)

LEGEND

Epoxy Mortar Repair

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Mortar Repair	Cu. Ft.	25

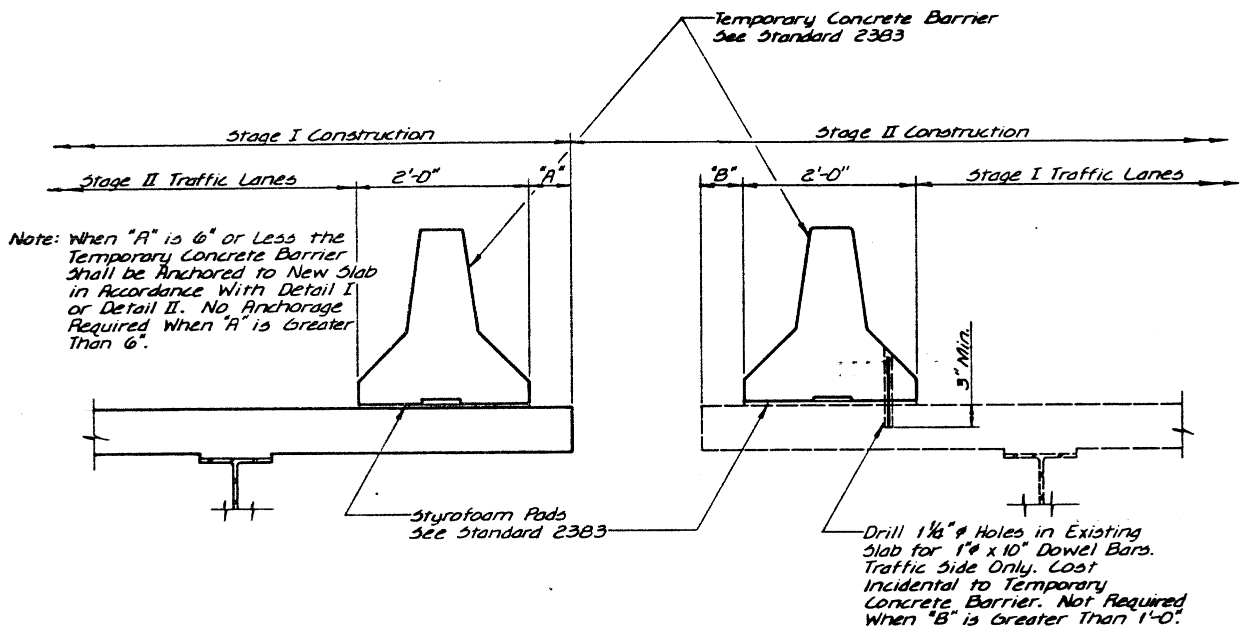
ESCA
CONSULTANTS, INC.

DESIGNED BY:	RDP	1-90
DRAWN BY:	WEM	1-90
CHECKED BY:	JRF	1-90
APPROVED BY:	RDP	1-90

CONCRETE REPAIRS
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION(92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012(WB)
STRUCTURE NO. 092-0013(EB)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	*	Vermilion	165	160
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		
		Dwg. No. 30 of 32		

*(92-11VB-1)BR



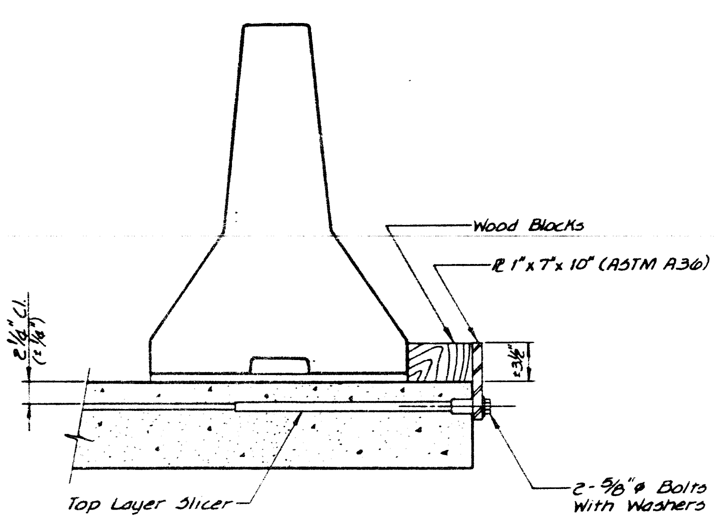
NEW SLAB

EXISTING SLAB

SECTIONS THRU SLAB

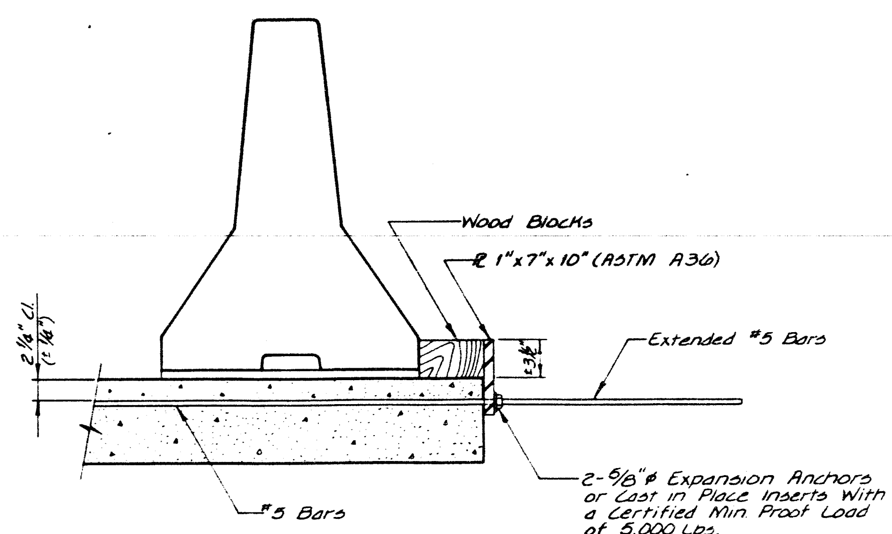
NOTES

1. DETAIL I-WITH BAR SPLICER OR COUPLERS: CONNECT ONE (1), 1" X 7" X 10" STEEL ℙ TO THE TOP LAYER OF COUPLERS WITH 2-5/8"ø BOLTS SCREWED TO COUPLER AT APPROXIMATE ℄ OF EACH 10'-0" BARRIER PANEL.
2. DETAIL II-WITH EXTENDED REINFORCEMENT BARS: CONNECT ONE (1), 1" X 7" X 10" STEEL ℙ TO THE CONCRETE SLAB WITH 2-5/8"ø EXPANSION ANCHORS OR CAST IN PLACE INSERTS SPACED BETWEEN THE TOP LAYER OF REINFORCEMENT AT APPROXIMATE ℄ OF EACH 10'-0" BARRIER PANEL.



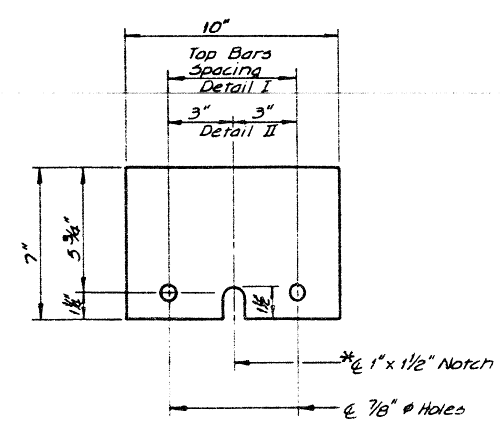
DETAIL I

Note: The 1"x 7"x 10" Plate Shall Not Be Removed Until Stage II Construction Forms and Reinforcement Bars are in Place.



DETAIL II

Note: The 1"x 7"x 10" Plate Shall Not be Removed Until Stage II Construction Forms and All Reinforcement Bars Are in Place and the Concrete is Ready to be Placed.



ℙ 1"x 7"x 10"

* Required Only With Detail II

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	V-90
DRAWN BY:	WEM	V-90
CHECKED BY:	JRF	V-90
APPROVED BY:	RDP	V-90

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION

FAI 74 OVER CONRAIL

FAI RTE. 74 SECTION (92-11VB-1)BR

VERMILION COUNTY

STATION 1900+80.59

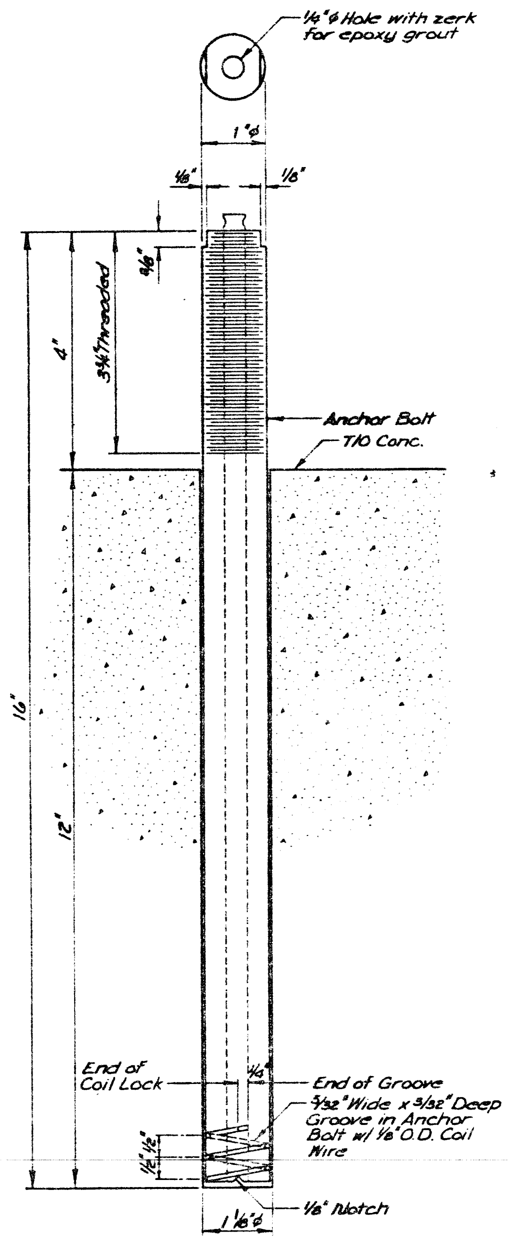
STRUCTURE NO. 092-0012 (WB)

STRUCTURE NO. 092-0013 (EB)

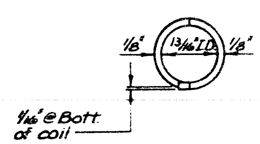
✻ (92 - 11VB - 1) BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	✻	Vermilion	165	161
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

Dwg. No 31 of 32



ILLINOIS COIL-LOCK ANCHOR BOLT



PLAN-COIL WIRE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

THE ANCHOR BOLT SHALL BE FABRICATED FROM COLD DRAWN OR HOT FINISHED SEAMLESS CARBON STEEL MECHANICAL TUBING CONFORMING TO ASTM A 519, GRADE 1026 AND SUPPLIED WITH HEXAGONAL NUTS AND CUT WASHERS.

THE COIL WIRE SHALL BE MADE OF ANY SUITABLE SOFT STEEL WIRE.

THE FINISHED ANCHOR BOLT SHALL BE CLEANED OF RUST AND OTHER FOREIGN MATERIALS AND WRAPPED OR PACKAGED TO PREVENT CONTAMINATION UNTIL THEY ARE INSTALLED.

THE EPOXY GROUT SHALL BE A TWO-COMPONENT, EPOXY RESIN BONDING SYSTEM CONFORMING TO ASTM C881, TYPE I, GRADE 1 AND OF A CLASS SUITABLE FOR THE TEMPERATURE OF INSTALLATION.

INSTALLATION PROCEDURE FOR ILLINOIS COIL-LOCK ANCHOR BOLT

1. WITH THE COIL WIRE IN PLACE, THE BOLT SHALL BE INSERTED INTO THE HOLE AND TURNED CLOCKWISE TO A SNUG FIT IN THE HOLE. NUT AND WASHER SHALL BE PLACED ON THE BOLT. THE NUT SHALL BE TENSIONED UNTIL THE STEEL BASE PLATES ARE HELD SECURELY TO THE CONCRETE BEARING SEAT.
2. EPOXY GROUT SHALL BE PUMPED THROUGH THE ZERK FITTING WITH A PRESSURE GUN. PUMPING SHALL CONTINUE UNTIL THE EPOXY OVERFLOWS THE HOLE AROUND THE BOLT SHANK. AFTER PUMPING IS DISCONTINUED, EXCESS EPOXY SHALL BE IMMEDIATELY WIPED OFF.

ALTERNATE ANCHOR BOLTS

THE CONTRACTOR MAY USE, AT HIS OPTION, THE CAPSULE OR THE ADHESIVE CARTRIDGE TYPE ANCHOR RODS THAT HAVE BEEN PREVIOUSLY TESTED AND GIVEN A PRIOR APPROVAL BY THE DEPARTMENT. THE CONTRACTOR SHALL INSTALL THESE ANCHOR RODS IN PRE-DRILLED HOLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.

THE CAPSULE OR THE ADHESIVE CARTRIDGE TYPE ANCHOR RODS SHALL BE A TWO PART SYSTEM COMPOSED OF:

1. A THREADED ROD STUD WITH NUT AND WASHER CONFORMING TO ASTM A307.
2. A SEALED GLASS CAPSULE OR A SEALED GLASS ADHESIVE CARTRIDGE CONTAINING PREMEASURED AMOUNT OF THE ADHESIVE CHEMICAL.

GENERAL NOTES

1. HOLES IN THE MASONRY FOR ANCHOR BOLTS SHALL BE DRILLED THROUGH THE BASE PLATES TO THE DIAMETER AND DEPTH SHOWN OR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AFTER BEAMS OR GIRDERS HAVE BEEN ERECTED AND ADJUSTED.
2. PRIOR TO SETTING THE BOLTS, THE HOLES SHALL BE DRY AND ALL DUST AND LOOSE PARTICLES SHALL BE REMOVED BY THE USE OF COMPRESSED AIR OR VACUUMING.
3. THE ANCHOR BOLTS, FURNISHED AND INSTALLED AND INCLUDING THE EPOXY GROUT OR CAPSULES SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "FURNISHING AND ERECTING STRUCTURAL STEEL."
4. NEW ANCHOR BOLTS ARE REQUIRED AT ALL FIXED BEARINGS, AT ABUTMENT BEARINGS FOR BEAMS 10 & 11, AND AT RETAINER ANGLES AT PIERS 1 & 3. THE NUMBER OF ANCHOR BOLTS REQUIRED IS AS FOLLOWS:

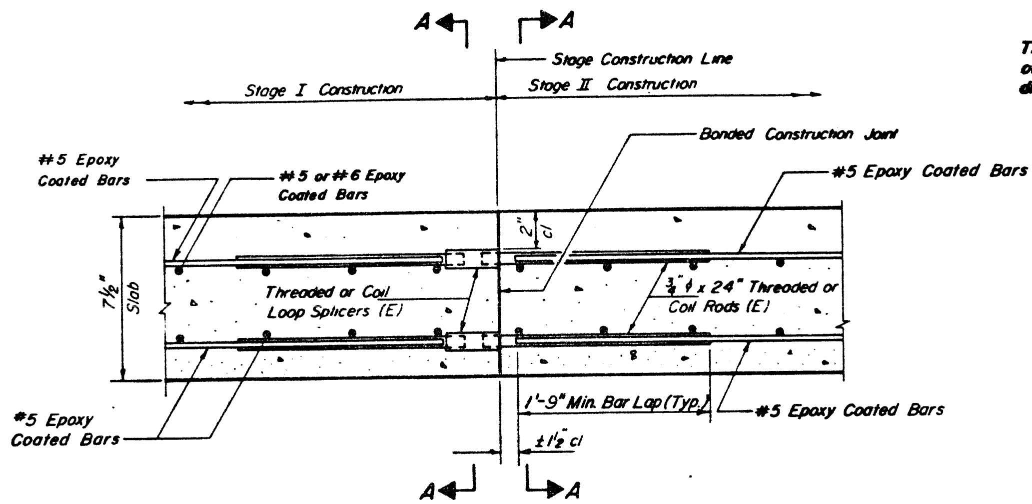
EB BRIDGE:		WB BRIDGE:	
PIER 1:	2	W. ABUT.:	4
PIER 2:	18	PIER 1:	2
PIER 3:	2	PIER 2:	14
TOTAL:	22	PIER 3:	2
		E. ABUT.:	4
		TOTAL:	26

TOTAL FOR BOTH BRIDGES = 48

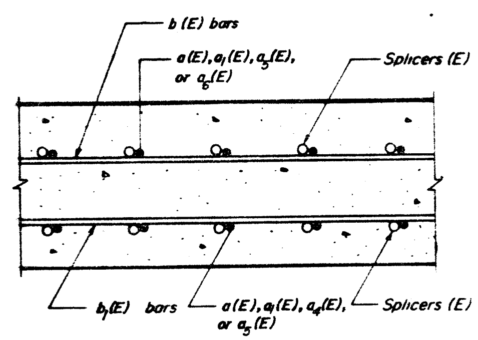
ESCA CONSULTANTS, INC.		
DESIGNED BY:	RDP	1-90
DRAWN BY:	WEM	1-90
CHECKED BY:	URF	2-90
APPROVED BY:	RDP	2-90

NOTE

ANCHOR BOLT DETAILS
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012 (WB)
STRUCTURE NO. 092-0013 (EB)



SECTION THRU SLAB



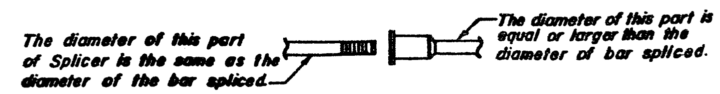
SECTION A-A

SPLICER DETAILS
(No. Req'd 1370)

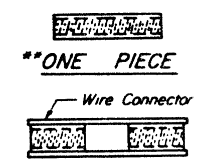
NOTE: COST INCIDENTAL TO REINF. BARS (EPOXY CTD.)

NOTE

BAR COUPLERS ARE REQUIRED TO SPLICE TRANSVERSE REINFORCEMENT AT THE STAGE CONSTRUCTION LINE AT ABUTMENTS AND IN CONCRETE DECK. SEE DWGS. 9, 10, AND 20 THROUGH 23.



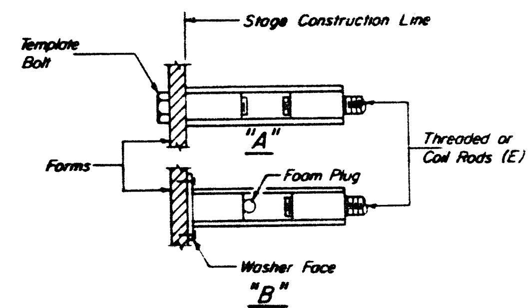
ROLLED THREAD DOWEL BAR



WELDED SECTIONS

SPLICER ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used



INSTALLATION AND SETTING METHODS

"A" Set splicer by means of a template bolt
"B" Set splicer by nailing to wood forms or cementing to steel forms
(E) Indicates epoxy coating, see Special Provisions

NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length and have effective tensile stress area equal or greater than that of the lapped reinforcement bars.

All reinforcement bars shall be lapped and tied to the splicer rods.

Splicer (coupler) assembly shall be epoxy coated in accordance with the requirements for reinforcement bars.

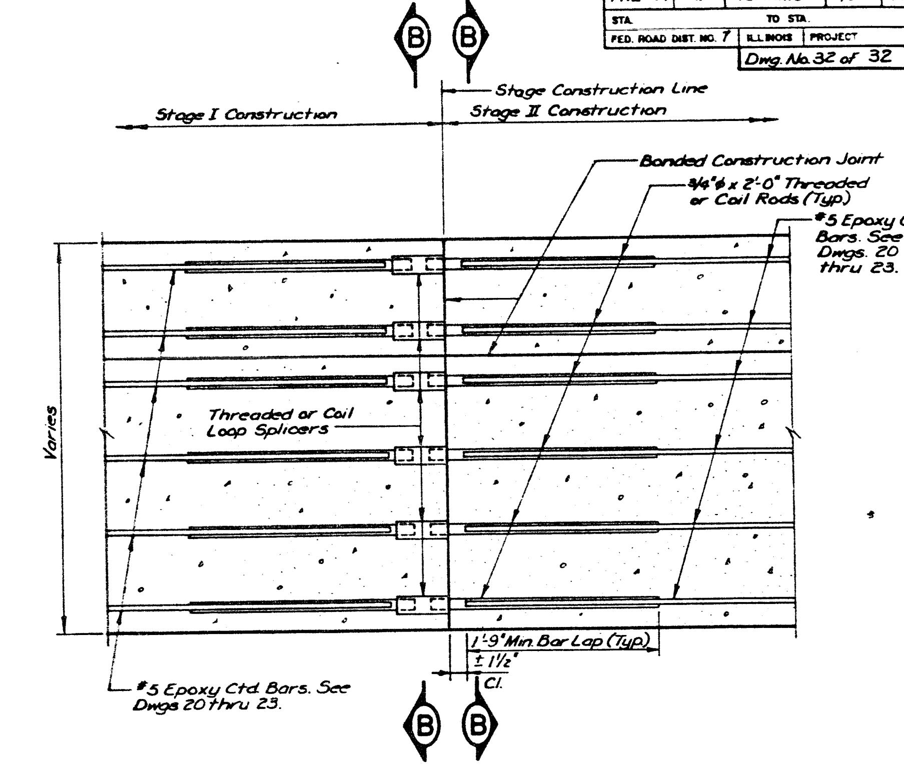
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:

1. Minimum Capacity $= 1.25 \times f_y \times A_t$ (Tension in kips)
2. Minimum *Pull-out Strength $= 1.25 \times fs_{allow} \times A_t$ (Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in k.s.i.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in k.s.i. (Service Load)
A_t = Tensile stress area of lapped reinforcement bars
* 28 day concrete

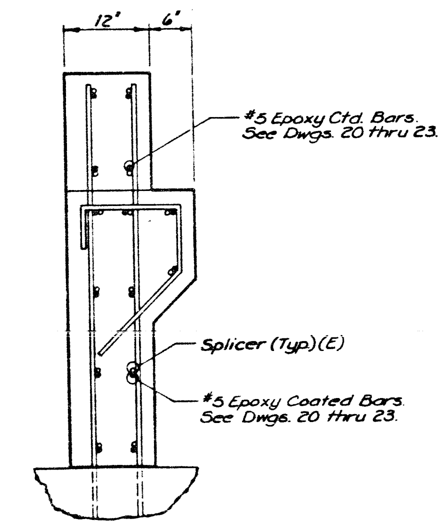
Typical Splicer (Coupler) Assembly Size

#5 bar lap with ¾" ϕ Splicer (Coupler) x 2'-0" Splicer Rods — Minimum Capacity = 23.0 kips-tension; Minimum Pull-out Strength = 9.2 kips-tension



SECTION THRU ABUTMENTS

NOTE: COST INCIDENTAL TO REINF. BARS (EPOXY COATED)

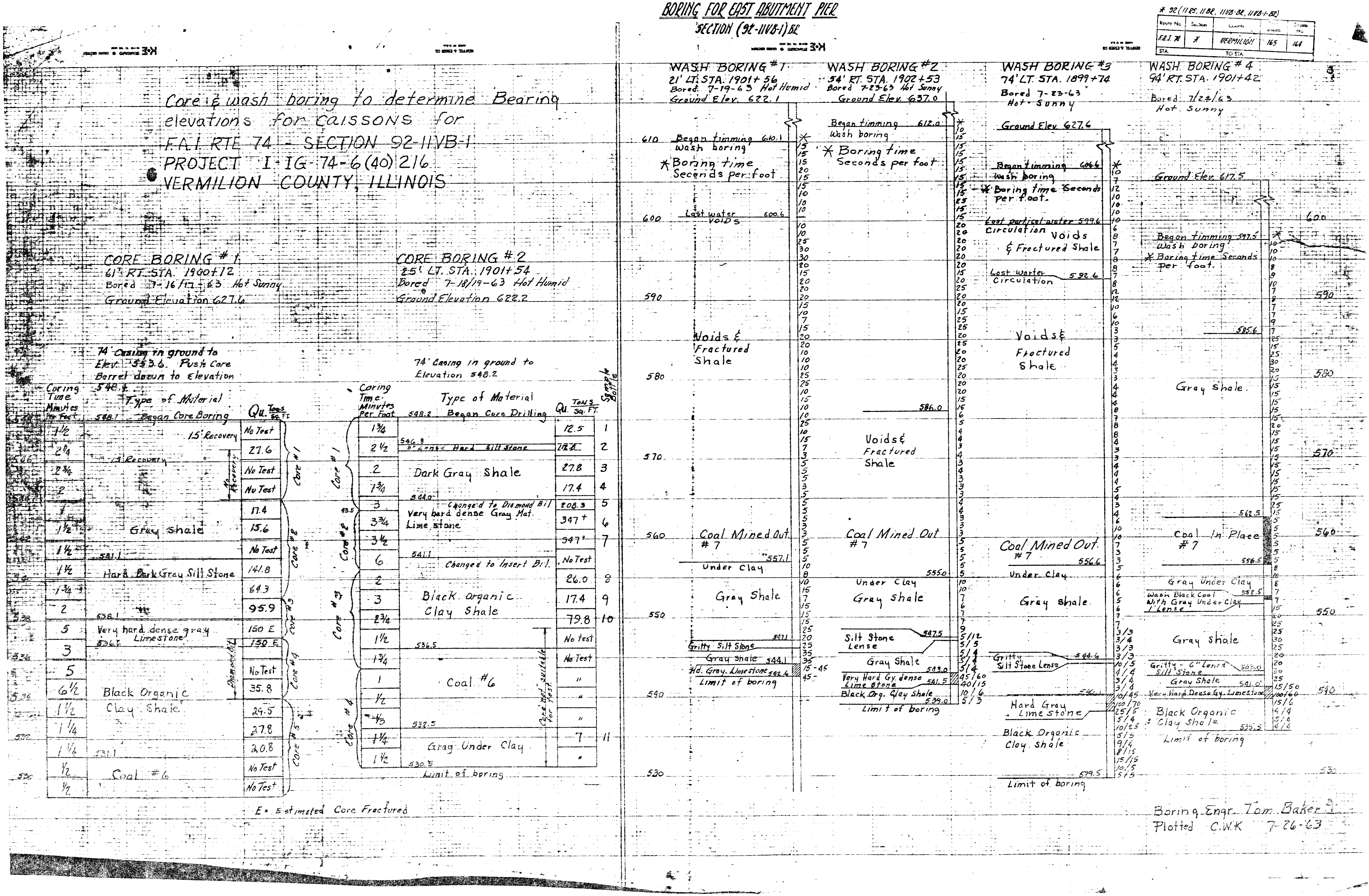


SECTION B-B

SPLICER DETAILS
(No. Req'd 48)

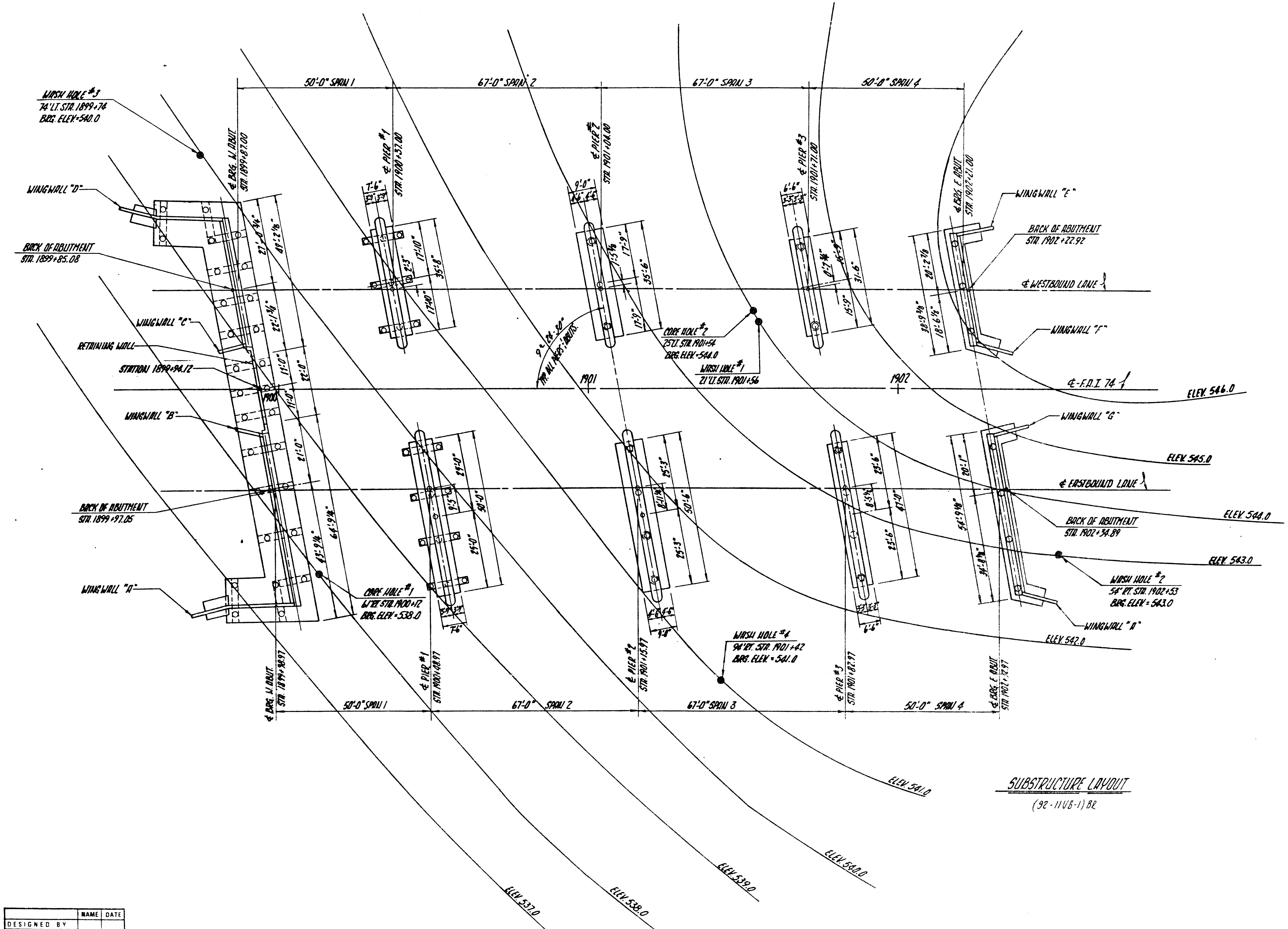
ESCA CONSULTANTS, INC.		
DESIGNED BY:	RDP	12-89
DRAWN BY:	WEM	12-89
CHECKED BY:	JRF	12-89
APPROVED BY:	RDP	12-89

BAR COUPLER DETAILS
FAI 74 OVER CONRAIL
FAI RTE. 74 SECTION (92-11VB-1)BR
VERMILION COUNTY
STATION 1900+80.59
STRUCTURE NO. 092-0012(WB)
STRUCTURE NO. 092-0013(EB)


BORING FOR EAST ABUTMENT PIER
SECTION (92-11VB-1)BR
* 92(11RS, 11BR, 11VB-BR, 11VB-1-BR)
F.A.I. 74 | * | VERMILION | 165 | 164
Core & wash boring to determine Bearing elevations for caissons for
F.A.I. RTE 74 - SECTION 92-11VB-1
PROJECT I-IG-74-6(40)216
VERMILION COUNTY, ILLINOIS
CORE BORING #1
61' RT. STA. 1900+12
Bored 7-16/17-63 Hot Sunny
Ground Elevation 627.6
74' Casing in ground to Elev. 553.6. Push Core Barrel down to elevation 548.4
Coring Time Minutes Per Foot
Type of Material
Qu. Tons Sq. Ft.
548.1 Began Core Boring
1.5' Recovery
Recovery
Gray Shale
541.1
Hard Dark Gray Silt Stone
538.1
Very hard dense gray Limestone
536.6
Diamond Bit
Black Organic Clay Shale
531.1
Coal #6
No Test
27.6
No Test
No Test
17.4
15.6
No Test
141.8
64.3
95.9
150 E
150 E
No Test
35.8
29.5
27.8
20.8
No Test
No Test
Core #1
Core #2
Core #3
Core #4
Core #5
CORE BORING #2
25' LT. STA. 1901+54
Bored 7-18/19-63 Hot Humid
Ground Elevation 622.2
74' Casing in ground to Elevation 548.2
Coring Time Minutes Per Foot
Type of Material
Qu. Tons Sq. Ft.
Sample Bottle
548.2 Began Core Drilling
546.8 Dense Hard Silt Stone
Dark Gray Shale
544.0 Changed to Diamond Bit
Very hard dense Gray Mat. Lime stone
541.1 Changed to Insert Bit.
Black Organic Clay Shale
536.5
Coal #6
532.5
Gray Under Clay
530.5
Limit of boring
Core not suitable for test
12.5
27.8
17.4
208.3
347+
347+
No Test
26.0
17.4
79.8
No test
No Test
E = Estimated Core Fractured
WASH BORING #1
21' LT. STA. 1901+56
Bored 7-19-63 Hot Humid
Ground Elev. 622.1
Began timming 610.1 wash boring
*Boring time Seconds per foot
Last water 600.6 Voids
Voids & Fractured Shale
Coal Mined Out #7
557.1
Under Clay
Gray Shale
Gritty Silt Stone
Gray Shale 544.1
Hd. Gray Limestone 542.4
Limit of boring
WASH BORING #2
54' RT. STA. 1902+53
Bored 7-23-63 Hot Sunny
Ground Elev. 637.0
Began timming 612.0 Wash boring
* Boring time Seconds per foot
586.0
Voids & Fractured Shale
Coal Mined Out #7
555.0
Under Clay
Gray shale
Silt Stone Lense 547.5
Gray Shale 543.0
Very Hard Gy. dense Lime Stone 541.5
Black Org. Clay Shale 539.0
Limit of boring
WASH BORING #3
74' LT. STA. 1899+74
Bored 7-23-63 Hot-Sunny
Ground Elev. 627.6
Began timming 606.6 Wash boring
*Boring time Seconds per foot.
Lost partial water 599.6 circulation Voids & Fractured Shale
Lost water circulation 592.6
Voids & Fractured Shale
Coal Mined Out. #7 556.6
Under Clay
Gray shale
Gritty Silt Stone Lense 544.6
Hard Gray Lime stone
Black Organic Clay shale
529.5
Limit of boring
WASH BORING #4
94' RT. STA. 1901+42
Bored 7/24/63 Hot Sunny
Ground Elev. 617.5
Began timming 597.5 wash boring
*Boring time Seconds per foot.
585.6
Gray Shale
562.5
Coal In Place #7
556.5
Gray Under Clay
Wash Black Coal with Gray Under Clay 1' Lense 552.5
Gray shale
Gritty - 6" Lense Silt Stone 543.0
Gray Shale 541.0
Very Hard Dense Gy. Limestone
Black Organic Clay Shale 535.5
Limit of boring
610
600
590
580
570
560
550
540
530
Boring Engr. Tom Baker
Plotted C.W.K 7-26-63

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. I-74	*	VERMILION	165	165

*92 (11RS, 11BR, 11VB-BR, 11VB-1-BR)



SUBSTRUCTURE LAYOUT

(92-11VB-1) BR

	NAME	DATE
DESIGNED BY		
CHECKED BY		
DRAFTED BY		

FEDERAL AID ROUTE NO	SEC	COUNTY	TOTAL SHEETS	SHEET NO
74	92-11VB-1	VERMILION	1	1
FED ROAD DIST NO 7	ILLINOIS	PROJECT I-IG-74-6(40)216		

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID INTERSTATE HIGHWAY

SCALES

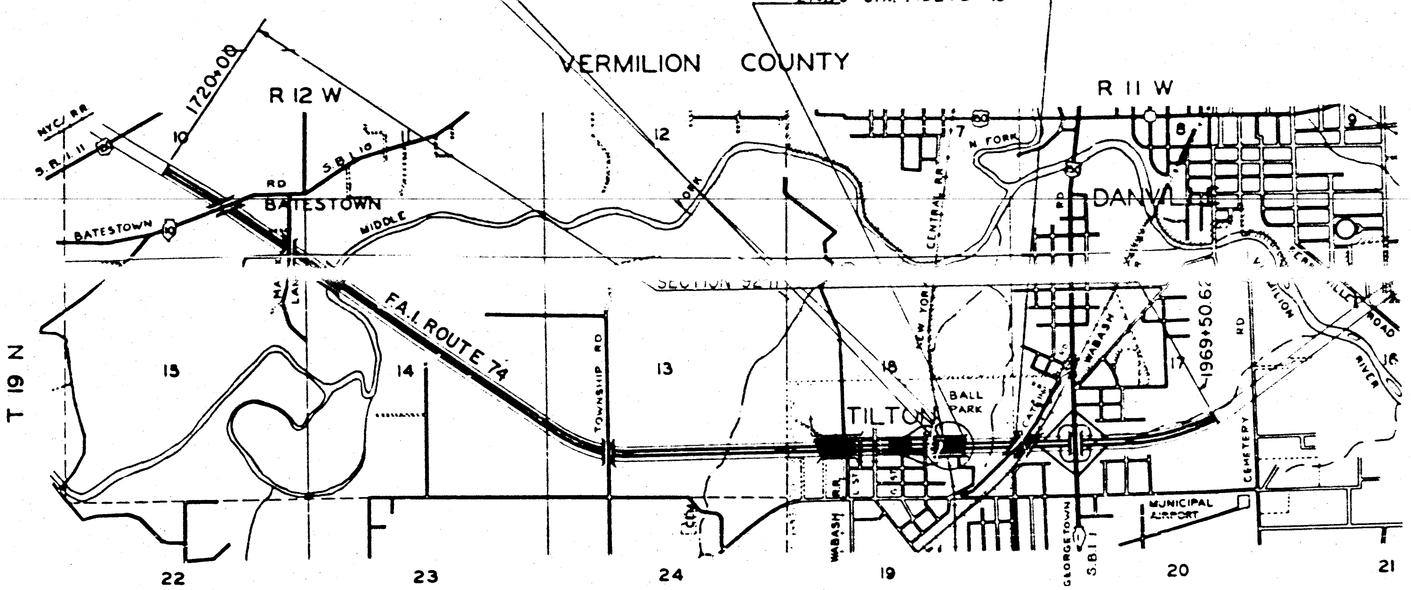
F.A.I. ROUTE 74 SECTION 92-11VB-1 VERMILION COUNTY
F.A.I. ROUTE 74 SECTION 92-11HB-4 VERMILION COUNTY
PROJECT I-IG-74-6(40)216

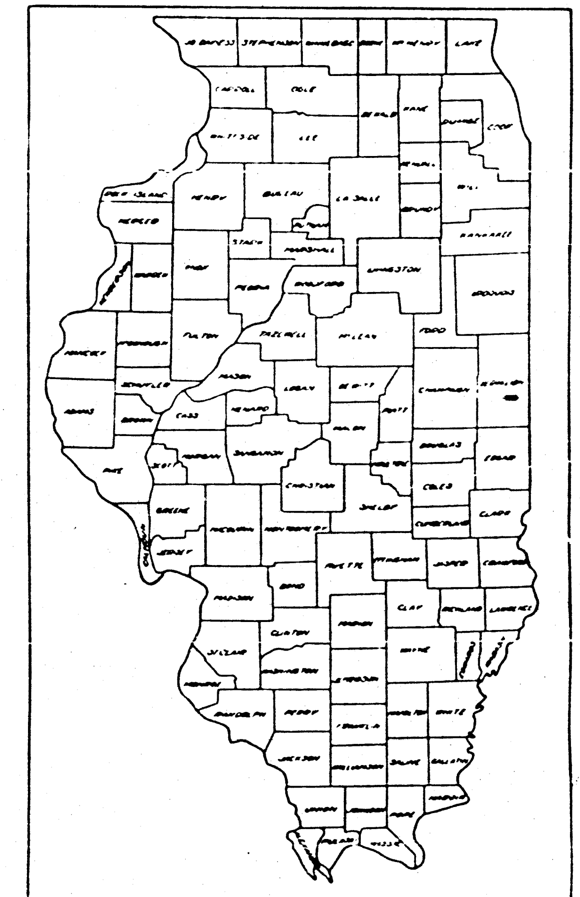
SECTION 92-11VB-1 INCLUDES TWO 4 SPAN STEEL BEAM STRUCTURES, SPANS 50'-0", 67'-0", 67'-0", 50'-0" WITH TWO VARIABLE WIDTH ROADWAYS, MAXIMUM WIDTHS 39'-7" AND 40'-3", AND 2'-0" SAFETY WALKS EACH STRUCTURE ON REINFORCED CONCRETE PIERS AND ABUTMENTS AT STATION 1900+80.59 TOGETHER WITH ROAD CONSTRUCTION UNDER END SPANS.

SECTION 92-11HB-4 INCLUDES A 6-SPAN WF-BEAM GRADE SEPARATION STRUCTURE [CARRYING C.H. ROUTE 7 (CATLIN ROAD) OVER FAI ROUTE 74], SPANS 1@50'-0", 1@51'-6¼", 1@74'-10⅞", 1@76'-0⅜", 1@50'-3⅞" AND 1@49'-7" ON R.C. OPEN PIERS AND PILE BENT ABUTMENTS AT STATION 1917+83.25.

PROJECT I-IG-74-6(40)216 BEGINS STA. 1899+94.12

PROJECT I-IG-74-6(40)216 ENDS STA. 1902+31.95





LOCATION OF SECTION INDICATED THUS:—

SPECIAL COVER SHEET PREPARED FOR THE BUREAU OF PUBLIC ROADS.

H.E. [signature] 11/5/62

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS

SUBMITTED October 22, 1962
J. J. [signature]
DISTRICT ENGINEER

EXAMINED November 13, 1962
[signature]
ENGINEER OF ROAD PLANS AND CONTRACTS

November 13, 1962
[signature]
ENGINEER OF DESIGN

APPROVED November 13, 1962
[signature]
CHIEF HIGHWAY ENGINEER

APPROVED November 13, 1962
[signature]
DIRECTOR

DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS	
APPROVED	
DIVISION ENGINEER	DATE

PLANS PREPARED BY
CONSOER TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS
360 EAST GRAND AVE.
CHICAGO, ILL.

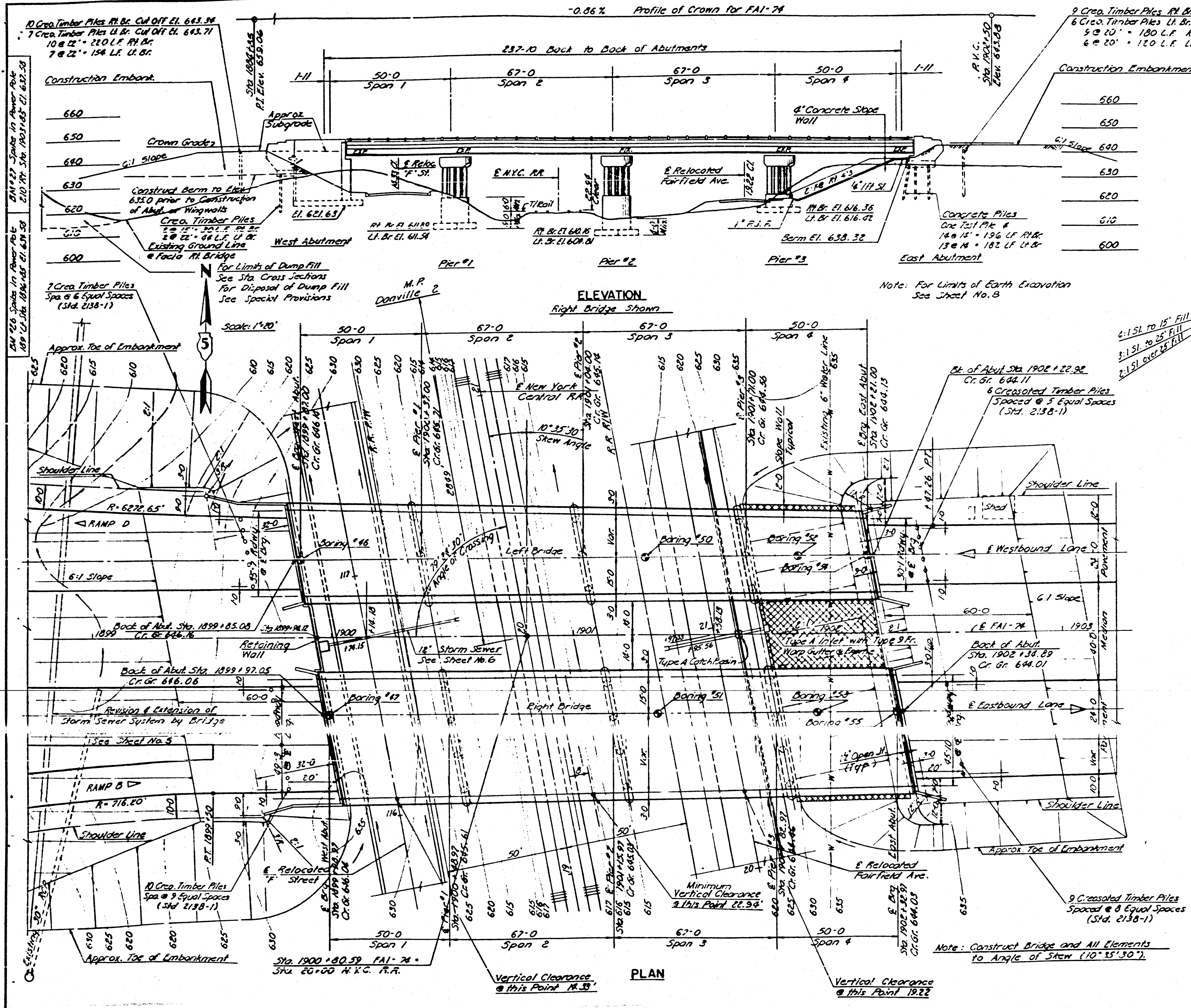
NET LENGTH SECTION 92-11VB-1 = 237.83 FT. = 0.045 MI.
NET LENGTH SECTION 92-11HB-4 = 0.00 FT. = 0.000 MI.
NET LENGTH PROJECT I-IG-74-6(40)216 = 237.83 FT. = 0.045 MI.

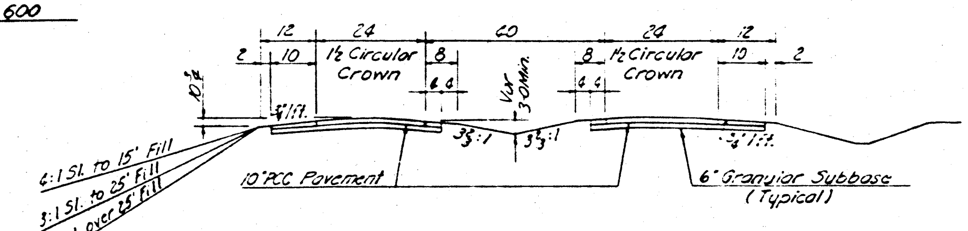
092-0012 + 0013

REEL 5-37

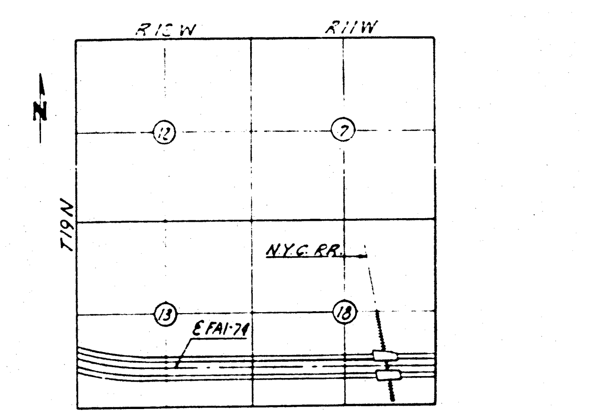
FAI ROUTE 74. SECTION 92-11VB-1 92-11HB-4 VERMILION COUNTY. PROJECT I-IG-74-6(40)216

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11 VB-1	VERMILION	74	10
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ. I-IG-74-6(20)216	





TYPICAL APPROACH ROADWAY SECTION



BRIDGE LOCATION

Design Loading This Structure: H20-S16-44 & Alternate

Roadway Classification: FAI-74 "A"; "F" Street "D"; Fairfield Ave. "D"

Note: Construct Bridge and All Elements to Angle of Skew (10°35'30").

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS — CHICAGO, ILLINOIS

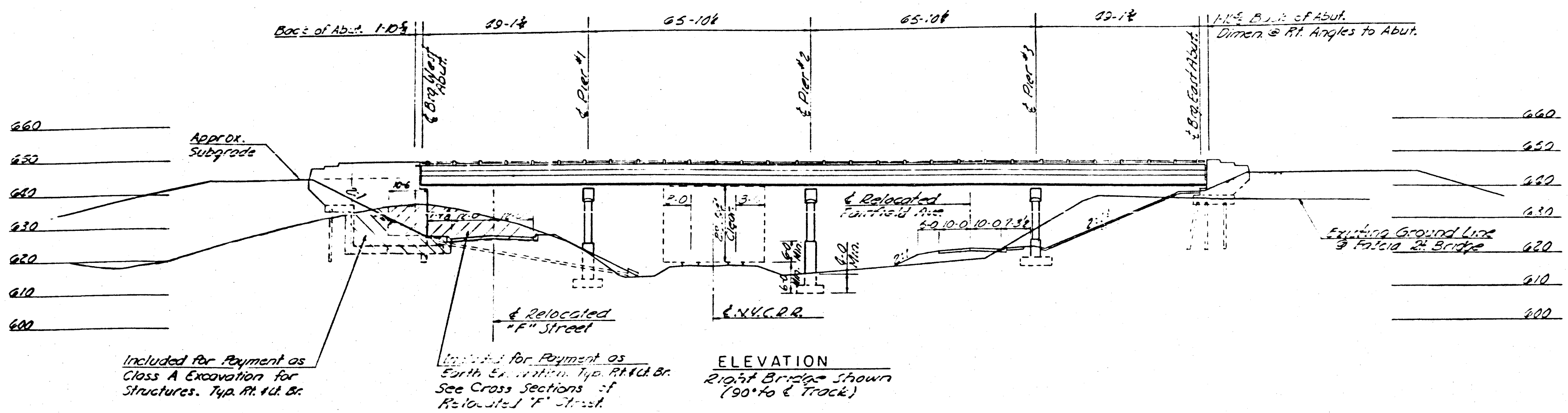
ILLINOIS DIVISION OF HIGHWAYS

FAI RT.-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-11VBI
VERMILION COUNTY STA. 1900+80.59

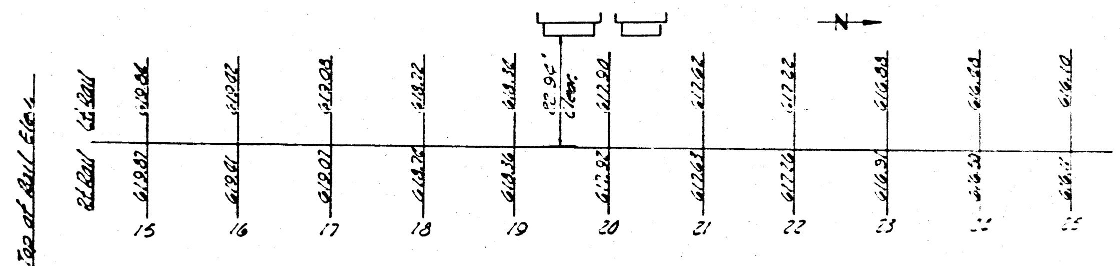
GENERAL PLAN AND LOCATION

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED / DATE	REVISED
RLF	RLF	RLF	JWH LOB	HSM 7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11 VB-1	VERMILION	74	11
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	

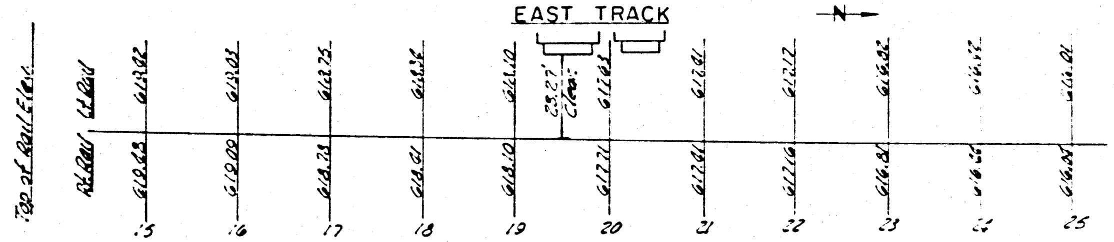


ELEVATION



RAILROAD PROFILE

EAST TRACK



RAILROAD PROFILE

WEST TRACK

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

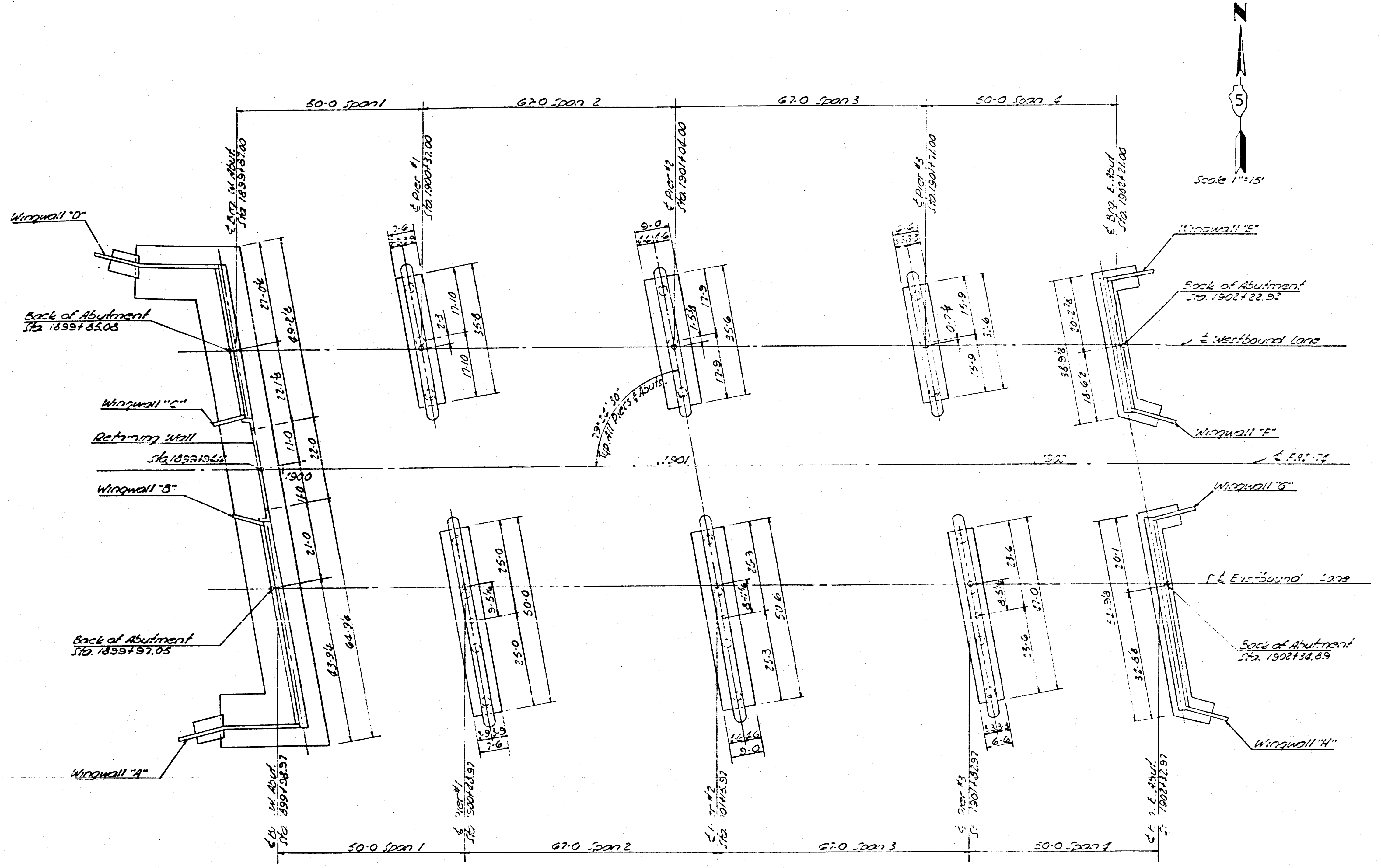
ILLINOIS DIVISION OF HIGHWAYS

FAI RT. 74 BRIDGE OVER N.Y.C. RR
FAI - 74 SECTION 92-11 VB-1
VERMILION COUNTY STA. 1900 + 80.59

ELEVATION & RAILROAD PROFILES

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLF	RLF	WES	JWH LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	12
FEDERAL ROAD DISTRICT NO. 7	ILLINOIS	PROJ.		



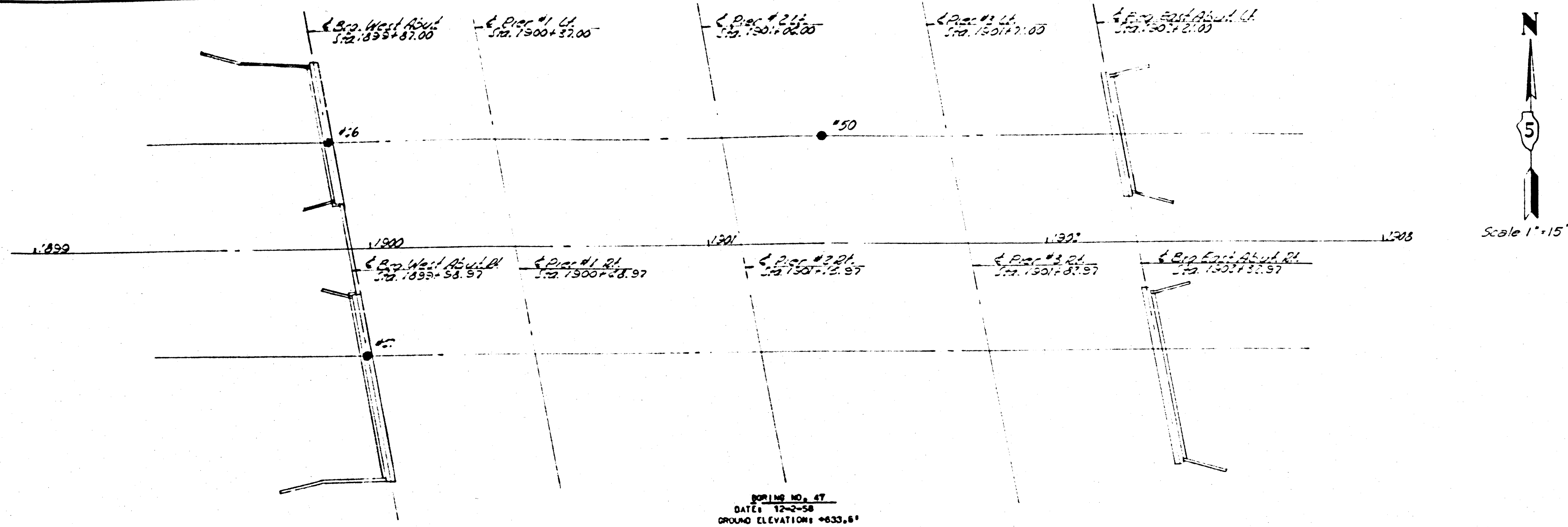
SUBSTFUCTURE LAYOUT

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
F.A.I.-RT. 74 BRIDGE OVER N.Y.C. R.R.
F A I -74 SECTION 92-11VB-1
VERMILION COUNTY STA 1900+80.59

STAKE OUT DIAGRAM

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLF	RLF	WES	JWH LDB	HSM	7-12-62	



F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-IIVB-1	VERMILION	74	13
FEDERAL ROAD DISTRICT NO. 7	ILLINOIS	FED.AID		

BORING	STATION	OFFSET
46	1899+87	32'L
47	1899+99	32'R
50	1901+29	32'L

BORING NO. 46
DATE: 12-2-58
GROUND ELEVATION: +631.8'

+631.8' GROUND SURFACE

E	S	PR	QU	R	CLASSIFICATION
30.8					BLACK TOP SOIL-LOOSE (M)
30.3					
29.8	1	5	-	0.5	
28.8	2	12	-	0.6	CLAY-SOME SILT & SAND-TRACE OF GRAVEL BROWN-TOUGH (M)
27.8					
26.8	3	25	-	0.7	
25.8					WATER LEVEL: +626.6' AFTER BORING
24.8	4	67	-	0.9	
23.8					
21.8					SILT-SOME CLAY & SAND-TRACE OF GRAVEL-RED & BROWN-VERY DENSE (M)
20.8	5	112	13.7	1.2	
19.8					
19.3					
18.3	6	143	11.2	-	
17.3					

END OF BORING

BORING NO. 47
DATE: 12-2-58
GROUND ELEVATION: +633.8'

+633.8' GROUND SURFACE

E	S	PR	QU	R	CLASSIFICATION
32.8					BLACK TOP SOIL-LOOSE (M)
32.3	1	4	-	0.8	SILT-SOME CLAY & SAND-BROWN-LOOSE (M)
31.8					
30.8	2	2	3.1	1.1	CLAY-SOME SILT & SAND BROWN-VERY TOUGH
29.8					
28.6	3	17	-	0.9	SILT-SOME CLAY, SAND & GRAVEL-BROWN-MED. DENSE (M)
27.8					WATER LEVEL: +628.8' AFTER BORING
26.6	4	41	-	0.8	WATER LEVEL: +626.3' 24 HRS. AFTER BORING
25.8					SILT-SOME SAND & CLAY TRACE OF GRAVEL-BROWN-DENSE (M)
24.8					
23.8					
22.8	5	57	9.2	0.9	
21.8					
21.3					SILT-SOME CLAY & SAND-TRACE OF GRAVEL RED & BROWN-VERY DENSE (D)
20.3	6	99	14.4	0.9	
19.3					
18.8					
17.8	7	111	13.1	0.9	
16.8					

END OF BORING

BORING NO. 50
DATE: 12-1-58

+612.3' GROUND SURFACE

E	S	PR	QU	R	CLASSIFICATION
11.3					BLACK TOP SOIL-LOOSE (M)
10.6	1	121	-	0.8	SILT & CLAY-TRACE OF SAND-BROWN & GRAY-VERY DENSE (M)
10.3	2	127	-	0.4	
08.3	3	130	-	0.2	SILT & CLAY-TRACE OF SAND-GRAY-VERY DENSE (D)
[illegible]	4	130	-	0.1	
03.3	5	130	-	0.1	

END OF BORING

NO WATER ENCOUNTERED WHILE SAMPLING & AFTER BORING

GENERAL NOTES

1950 CHICAGO BUILDING CODE SOIL CLASSIFICATIONS ARE USED.

E : ELEVATION
S : SAMPLE NUMBERS
PR : PENETRATION IN BLOWS PER FOOT OF 140 POUNDS HAMMER FALLING 30 INCHES
QU : UNCONFINED COMPRESSIVE STRENGTH-T/SQ.FT.
R : RECOVERY IN FEET
SS : SPLIT SPOON-SIZE: 2"O.D. SIZE: 1⅜" I.D.
M : MOIST
D : DRY
W : WET

"LOGS PREPARED BY
SOIL TESTING SERVICES, INC.
1827 N. HARLEM AVE.
CHICAGO 35, ILL."

WATER LEVELS INDICATED ON THE BORING LOGS ARE THE LEVELS MEASURED IN THE BORING AT THE TIMES INDICATED. IN PERVIOUS SOILS, THE INDICATED ELEVATIONS ARE CONSIDERED RELIABLE GROUND WATER LEVELS. IN IMPERVIOUS SOILS, THE ACCURATE DETERMINATION OF GROUND WATER ELEVATIONS IS NOT POSSIBLE IN EVEN SEVERAL DAYS OBSERVATION, AND ADDITIONAL EVIDENCE ON GROUND WATER ELEVATIONS MUST BE SOUGHT.

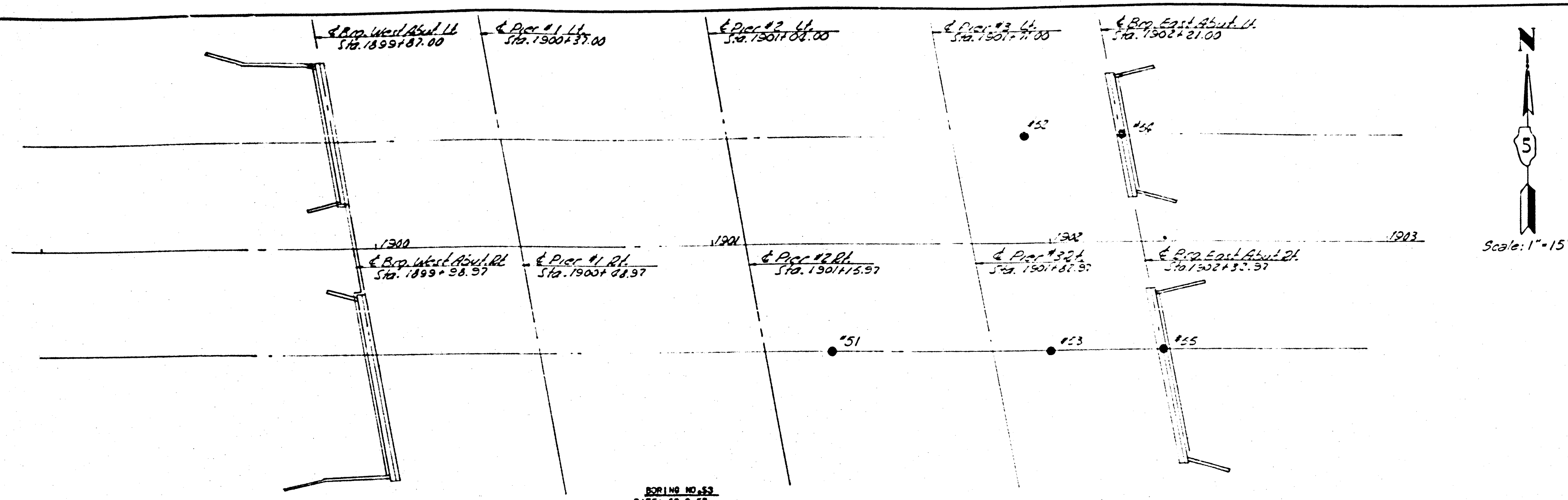
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS — CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 OVER NYC RR
FAI 74 SECTION 92-IIVB-1
VERMILION COUNTY — STA. 1900+80.59

BORING LOGS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
			L.D.B.	H.S.M.	3/25/59	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-IIVB-1	VERMILION	74	14
FEDERAL ROAD DISTRICT NO. 7	ILLINOIS	PROJ.		



BORING NO. 52
DATE: 12-2-58
GROUND ELEVATION: +633.4'

+633.4' GROUND SURFACE

E	S	PR	QU	R	CLASSIFICATION
32.4					BLACK TOP SOIL–LOOSE (M)
31.9 / 31.4	1	8	-	0.5	SILT–SOME SAND & CLAY BROWN–LOOSE (M)
30.4 / 29.4	2	22	3.6	0.3	CLAY–SOME SILT & SAND TRACE OF GRAVEL–BROWN VERY TOUGH (M)
28.4 / 27.4	3	13	-	0.2	SILT–SOME SAND & CLAY TRACE OF GRAVEL–BROWN & GRAY–MED. DENSE (M)
26.4 / 25.4 / 24.4	4	42	-	0.6	SILT–SOME SAND & CLAY TRACE OF GRAVEL–BROWN & GRAY–DENSE (M)
23.4 / 22.4 / 21.4 / 20.9	5	168	10.0	0.8	SILT–SOME CLAY & SAND TRACE OF GRAVEL–RED & BROWN–VERY DENSE (D)
20.7 / 19.4	6	195	-	0.5	

END OF BORING
NO WATER ENCOUNTERED WHILE SAMPLING & AFTER BORING

BORING NO. 53
DATE: 12-2-58
GROUND ELEVATION: +634.7'

+634.7' GROUND SURFACE

E	S	PR	QU	R	CLASSIFICATION
33.7					BLACK TOP SOIL–LOOSE (M)
33.2 / 32.7	1	6	-	0.2	SILT–SOME SAND & CLAY BROWN–LOOSE (M)
31.7 / 30.7	2	9	1.5	0.9	CLAY–SOME SILT–TRACE OF SAND–BROWN–TOUGH (M)
					WATER LEVEL: +629.7' AFTER BORING
29.7 / 28.7	3	13	1.5	1.0	SILT–SOME CLAY & SAND BROWN–MED. DENSE (M)
27.7 / 26.7 / 25.7	4	15	1.2	1.2	
24.7 / 23.7 / 22.7 / 22.2	5	71	9.0	1.1	SILT–SOME CLAY & SAND TRACE OF GRAVEL–RED & BROWN–VERY DENSE (D)
21.2 / 20.2 / 19.7	6	112	13.1	1.0	
18.7 / 17.7	7	135	9.5	0.9	

END OF BORING

BORING NO. 54
DATE: 12-3-58
GROUND ELEVATION: +633.7'

+633.7' GROUND SURFACE

E	S	PR	QU	R	CLASSIFICATION
32.7					BLACK TOP SOIL–LOOSE (M)
32.2 / 31.7	1	4	-	0.5	SILT–SOME SAND & CLAY BROWN & GRAY–LOOSE (M)
30.7 / 29.7	2	16	-	0.5	CLAY–SOME SILT–TRACE OF SAND & GRAVEL–BROWN & GRAY–TOUGH (M)
28.7 / 27.7	3	23	-	0.2	
					WATER LEVEL: +627.7' WHILE SAMPLING
26.7 / 25.7 / 24.7	4	29	-	0.8	SILT–SOME SAND & CLAY–BROWN–MED. DENSE (M)
23.7 / 22.7 / 21.7	5	72	7.7	1.0	SILT–SOME CLAY & SAND–TRACE OF GRAVEL RED & BROWN–VERY DENSE (M)
21.2 / 20.7 / 20.2	6	197	-	0.8	
18.7 / 18.6 / 18.3	7	130+	-	0.2	

END OF BORING

BORING NO. 55
DATE: 12-3-58
GROUND ELEVATION: +634.4'

+634.4' GROUND SURFACE

E	S	PR	QU	R	CLASSIFICATION
33.4					BLACK TOP SOIL–LOOSE (M)
32.9 / 32.4	1	10	-	0.7	CLAY–SOME SILT & SAND–BROWN & GRAY–TOUGH (M)
31.4 / 30.4	2	15	-	1.0	
29.4 / 28.4	3	22	-	0.9	SILT–SOME SAND & CLAY–TRACE OF GRAVEL BROWN–MED. DENSE (M)
					WATER LEVEL: +628.9' AFTER BORING
27.4 / 26.4 / 25.4	4	28	4.8	1.4	SILT–SOME SAND & CLAY–TRACE OF GRAVEL BROWN–DENSE (M)
24.4 / 23.4 / 22.4 / 22.1 / 21.9	5	49	10.6	1.5	SILT–SOME CLAY & SAND–TRACE OF GRAVEL RED & BROWN–VERY DENSE (M)
20.9 / 19.9 / 19.4	6	186	14.7	1.1	SILT–SOME CLAY & SAND–TRACE OF GRAVEL RED, BROWN & GRAY–VERY DENSE (D)
18.7 / 17.9	7	200	14.2	-	

END OF BORING

BORING	STATION	OFFSET
51	1901+34	32' R
52	1901+92	32' L
53	1902+00	32' R
54	1902+21	32' L
55	1902+33	32' R

"LOGS PREPARED BY
SOIL TESTING SERVICES, INC.
CHICAGO 35, ILL."

NOTE: For General Notes see sheet #13

BORING NO. 51
DATE: 12-2-58
GROUND ELEVATION: +612.0'

+612.0' GROUND SURFACE

E	S	PR	QU	R	CLASSIFICATION
11.5					BLACK TOP SOIL–LOOSE (M)
11.0	1	94	-	1.0	SILT & CLAY–TRACE OF SAND–GRAY–VERY DENSE (D)
10.0 / 09.5	2	130+	-	0.2	
07.0	3	130+	-	0.1	
04.5	4	130+	-	0.2	
02.0	5	130+	-	0.1	

END OF BORING
NO WATER ENCOUNTERED WHILE SAMPLING & AFTER BORING

E	S	PR	QU	R	CLASSIFICATION

E	S	PR	QU	R	CLASSIFICATION

E	S	PR	QU	R	CLASSIFICATION

E	S	PR	QU	R	CLASSIFICATION

E	S	PR	QU	R	CLASSIFICATION

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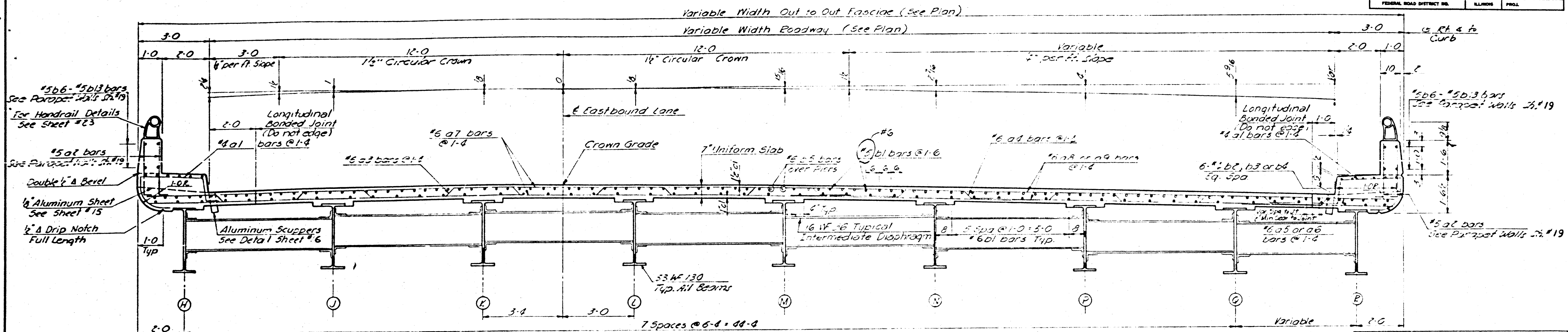
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT 74 OVER NYC RR
FAI 74 SECTION 92-IIVB-1
VERMILION COUNTY STA. 1900+80.59

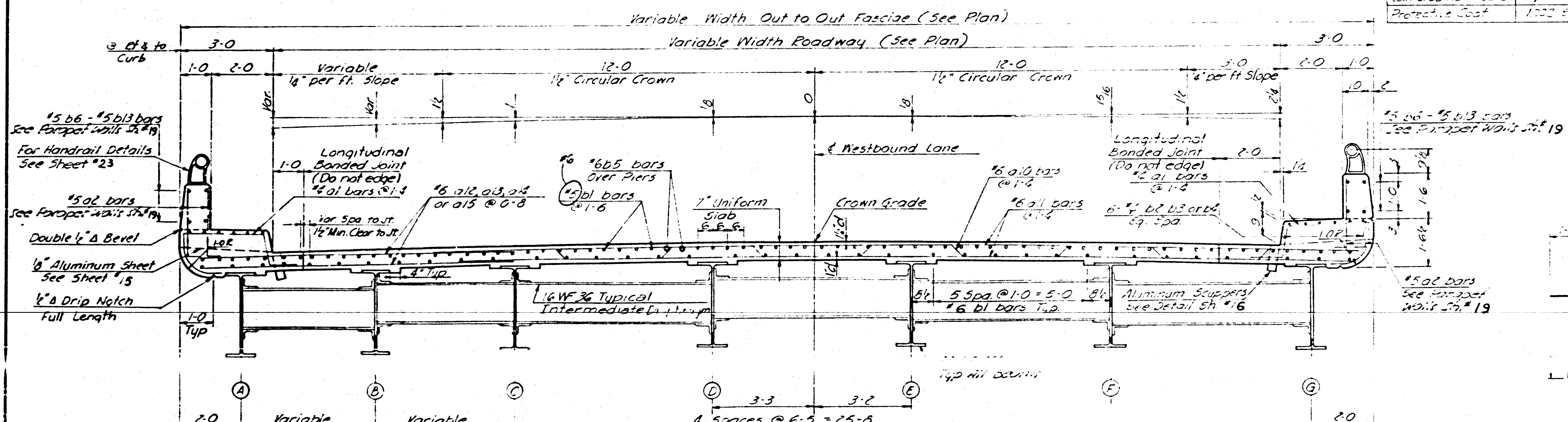
BORING LOGS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
			L.D.B.	H.S.M.	3/25/59	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	Vermilion	74	20
FEDERAL ROAD DISTRICT NO.		ILLINOIS	PROJ.	



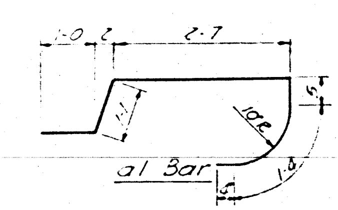
TYPICAL DECK SECTION – RIGHT BRIDGE



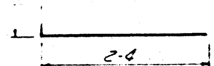
TYPICAL DECK SECTION – LEFT BRIDGE

SUPERSTRUCTURE QUANTITIES			
Item	Rt. Bridge	Lt. Bridge	TOTAL
Class "X" Concrete	349.9 Cu. Yds.	272.4 Cu. Yds.	622.3 Cu. Yds.
Reinforcement Bars	92,540 Lbs.	72,650 Lbs.	165,190 Lbs.
Protective Coat	1722 Sq. Yds.	1338 Sq. Yds.	3060 Sq. Yds.

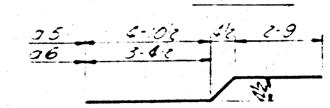
BAR SCHEDULE					
Bar	No.	Size	Length	Spacing	Shape
a1	708	4	6-9	1-4	
a2	1888	5	2-10	As Shown	
a3	176	6	31-9	1-4	
a4	176	6	22-11	1-4	
a5	88	6	8-2	1-4	
a6	68	6	6-8	1-4	
a7	354	6	30-0	1-4	
a8	178	6	26-6	1-4	
a9	176	6	25-0	1-4	
a10	176	6	31-9	1-4	
a11	354	6	30-6	1-4	
a12	152	6	13-6	0-8	
a13	202	6	12-3	0-8	
a14	200	6	11-0	0-8	
a15	152	6	9-3	0-8	
b1	1052	6	35-0	As Shown	
b2	96	4	21-9	As Shown	
b3	96	4	25-3	As Shown	
b4	144	4	8-9	As Shown	
b5	359	6	19-6	As Shown	
b6	56	5	13-9	1-0	
b7	36	5	8-9	1-0	
b8	28	5	15-9	1-0	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
b10	16	5	13-7	1-0	
b11	8	5	15-7	1-0	
b12	24	5	13-9	1-0	
b13	8	5	16-0	1-0	



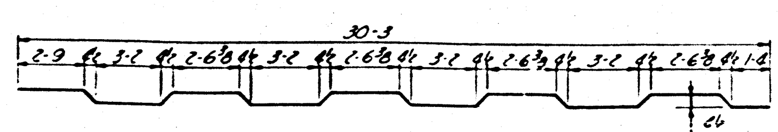
a1 Bar



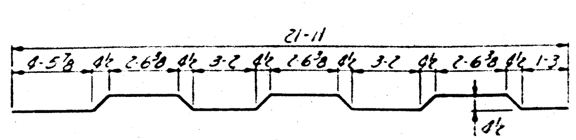
a2 Bar



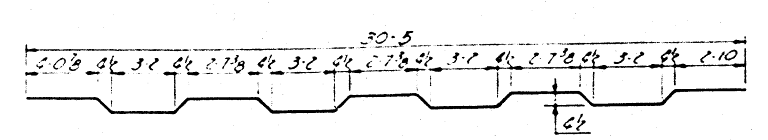
a5 & a6 Bars



a3 Bar



a4 Bar



a10 Bar

BENDING DIAGRAMS
All bar dimensions are out to out.

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ILLINOIS DIVISION OF HIGHWAYS

FAI RT-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-11VB-1
VERMILION COUNTY STA. 1900+80.59

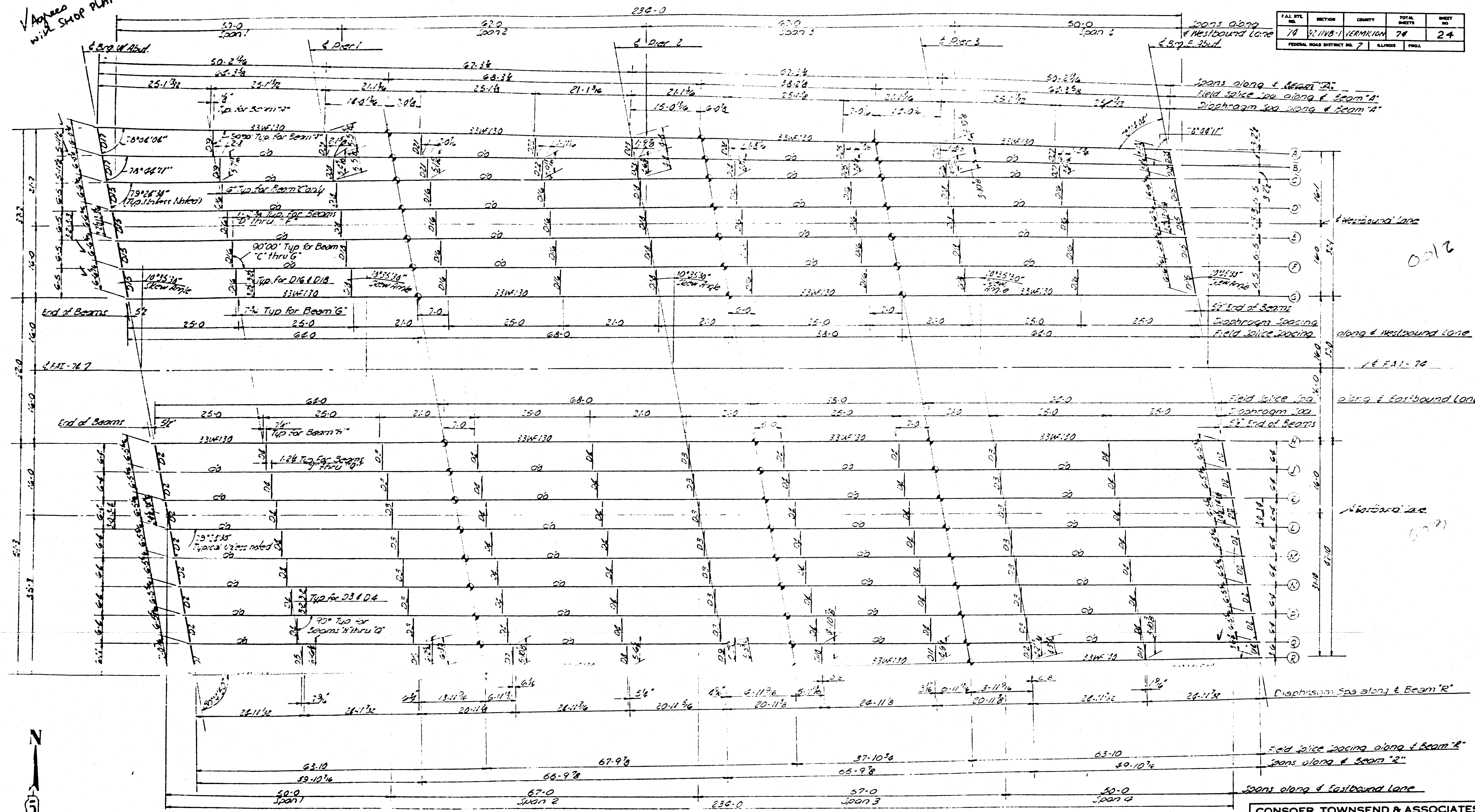
SUPERSTRUCTURE DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLF	RLF	KLJ	JMH LDB	HSM	7-12-62	

Revision 1-28-63: #5b1 bars in deck cross sections changed to #6 bars. Quantity of reinf. was based on #6 bars. WCK.

✓ Agrees with Shop Plans Reel 54

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-1IVB-1	VERMILION	74	24
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



FRAMING PLAN

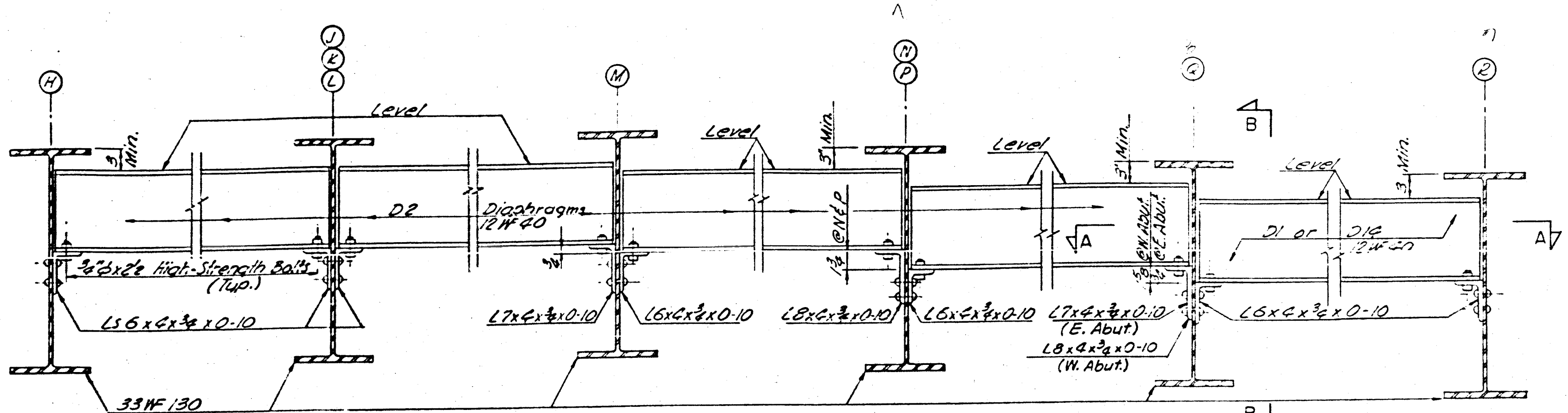
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS — CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT.-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-1IVB-1
VERMILION COUNTY — STA. 1900+80.59

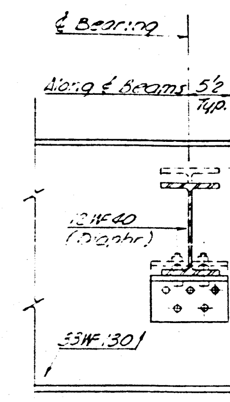
STRUCTURAL STEEL FRAMING PLAN

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWH	JT	WES	RLF LDB	HSM	7-12-62	

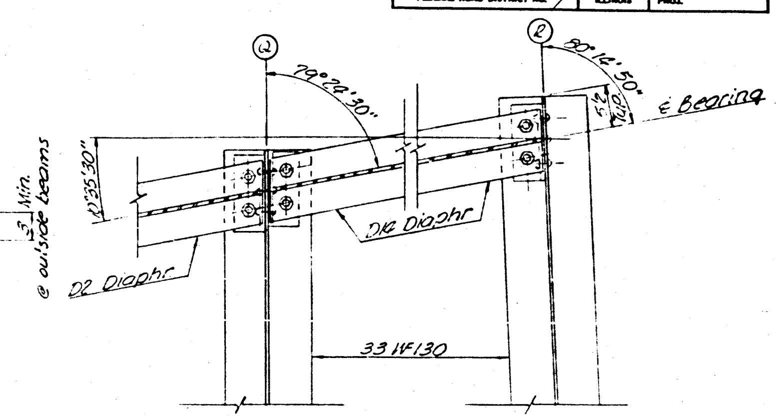
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB	VERMILION	74	25
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



END DIAPHRAGMS AT WEST & EAST ABUTMENTS

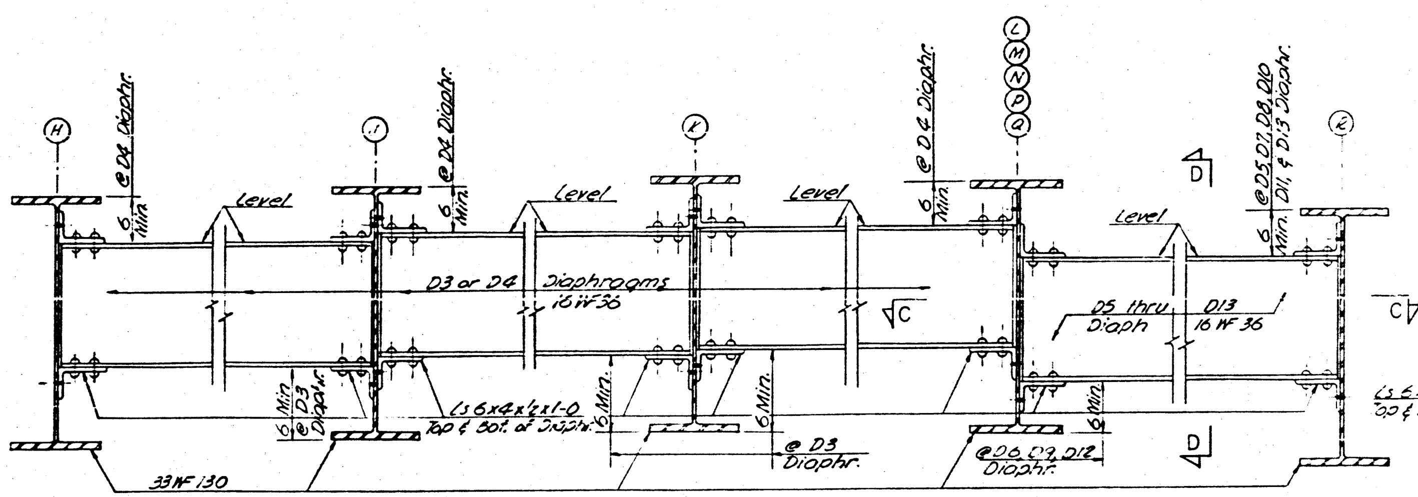


SECTION B-B

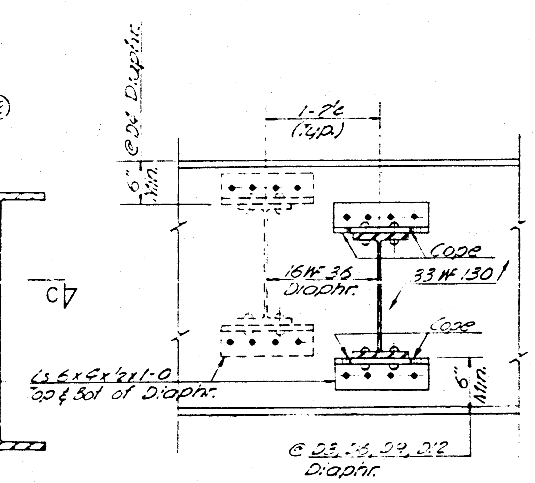


SECTION A-A
East Abut. Shown

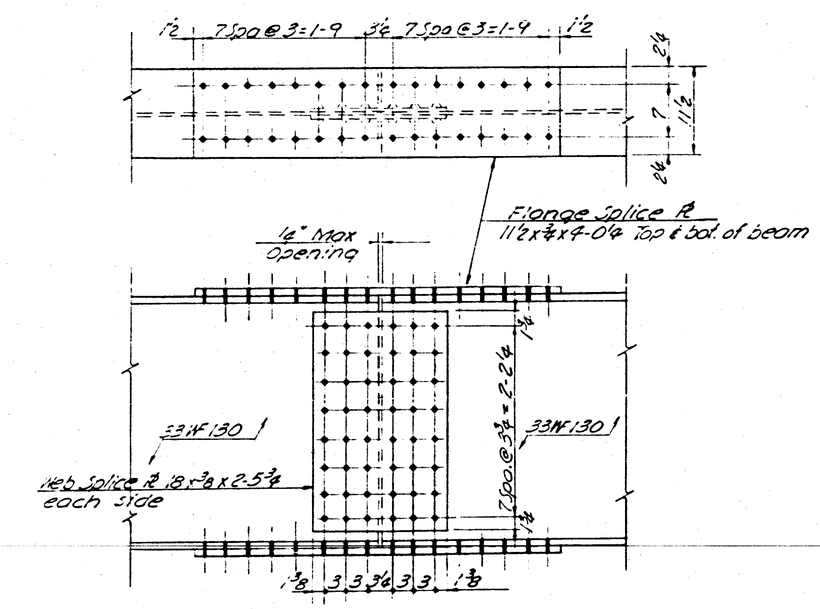
END DIAPHRAGMS — RIGHT BRIDGE
1 D1 Diaphr. Req'd.
14 D2 Diaphr. Req'd.
1 D14 Diaphr. Req'd.



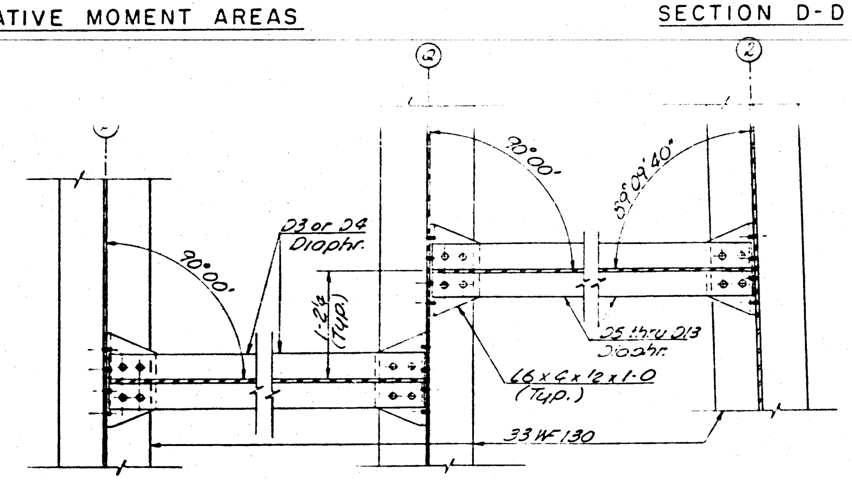
INTERMEDIATE DIAPHRAGMS FOR POSITIVE & NEGATIVE MOMENT AREAS



SECTION D-D



FIELD SPLICE DETAIL
48 Required



SECTION C-C

INTERMEDIATE DIAPHRAGMS – RIGHT BRIDGE
21 D3 Diaphr. Req'd.
42 D4 Diaphr. Req'd.
One Each D5 thru D13 Diaphr. Req'd.

Note: All rivet holes to be reamed with all parts assembled to grade and all parts match marked.

3/4" φ Rivets in all web splices.
7/8" φ Rivets in all flange splices.

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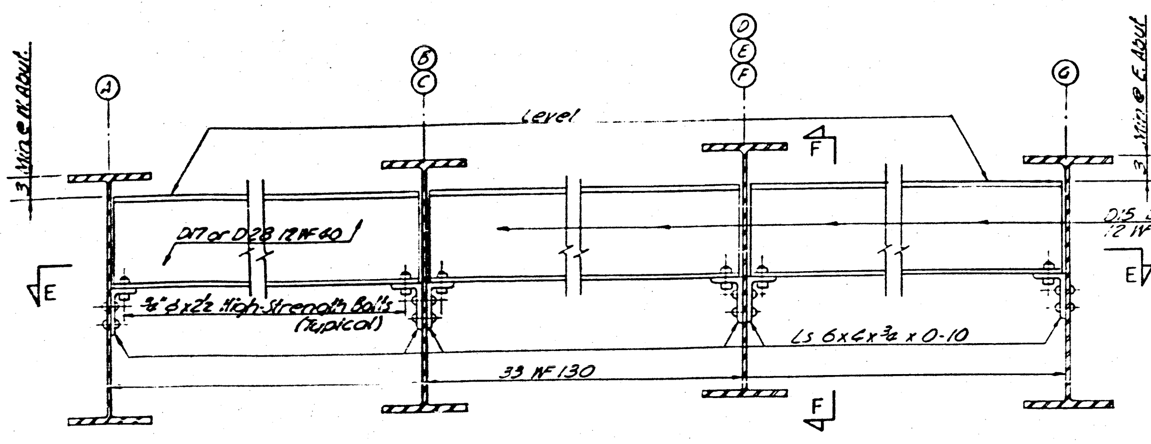
ILLINOIS DIVISION OF HIGHWAYS
FAI RT.-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-11VB-1
VERMILION COUNTY — STA.1900+80.59

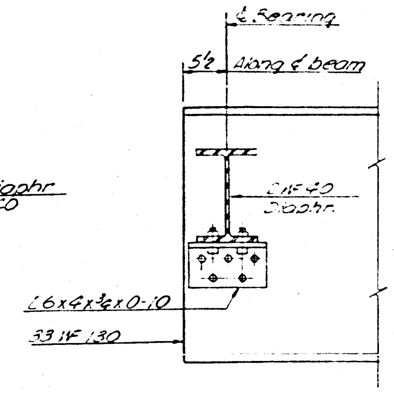
STRUCTURAL STEEL FRAMING DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JT	JT	C28	DDR LDB	HSM	7-12-6?	

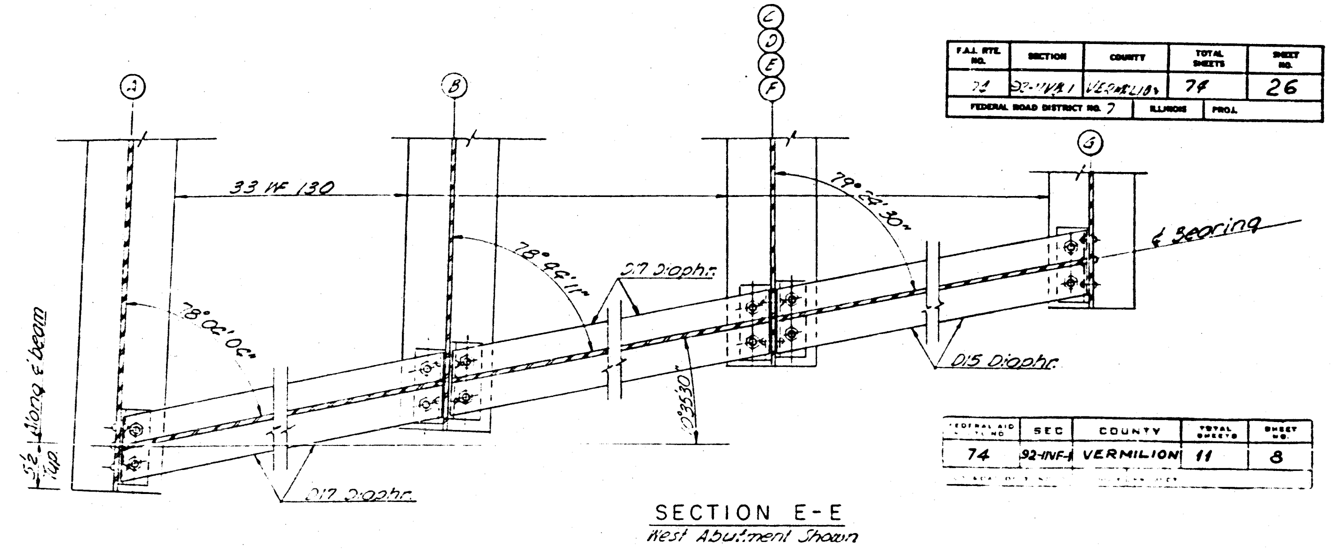
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-IIVB-I	VERMILION	74	26
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



END DIAPHRAGMS AT WEST & EAST ABUTMENTS



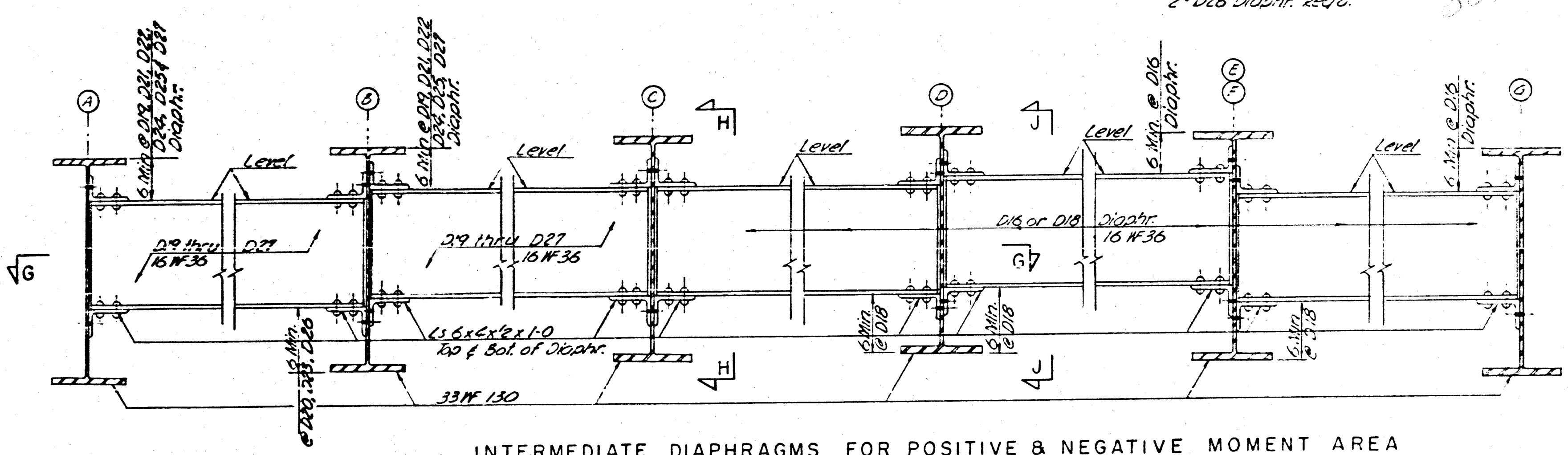
SECTION F-F



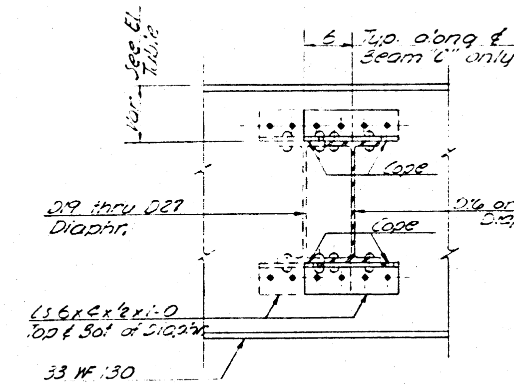
SECTION E-E
West Abutment Shown

END DIAPHRAGMS — LEFT BRIDGE
8 - D15 Diaphr. Req'd.
2 - D17 Diaphr. Req'd.
2 - D28 Diaphr. Req'd.

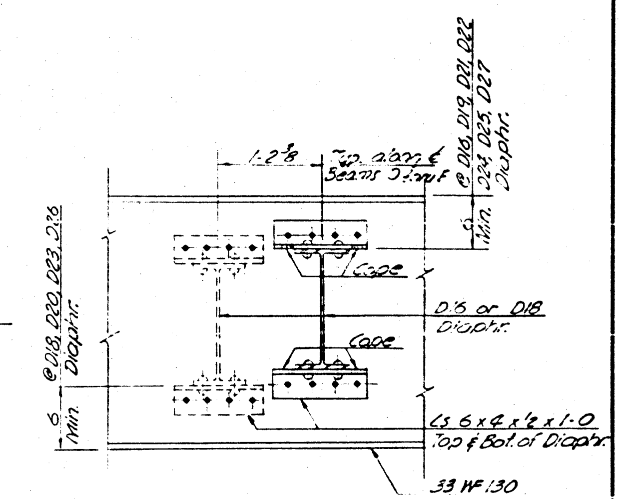
FEDERAL AID	SEC	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-IIVF-I	VERMILION	11	8



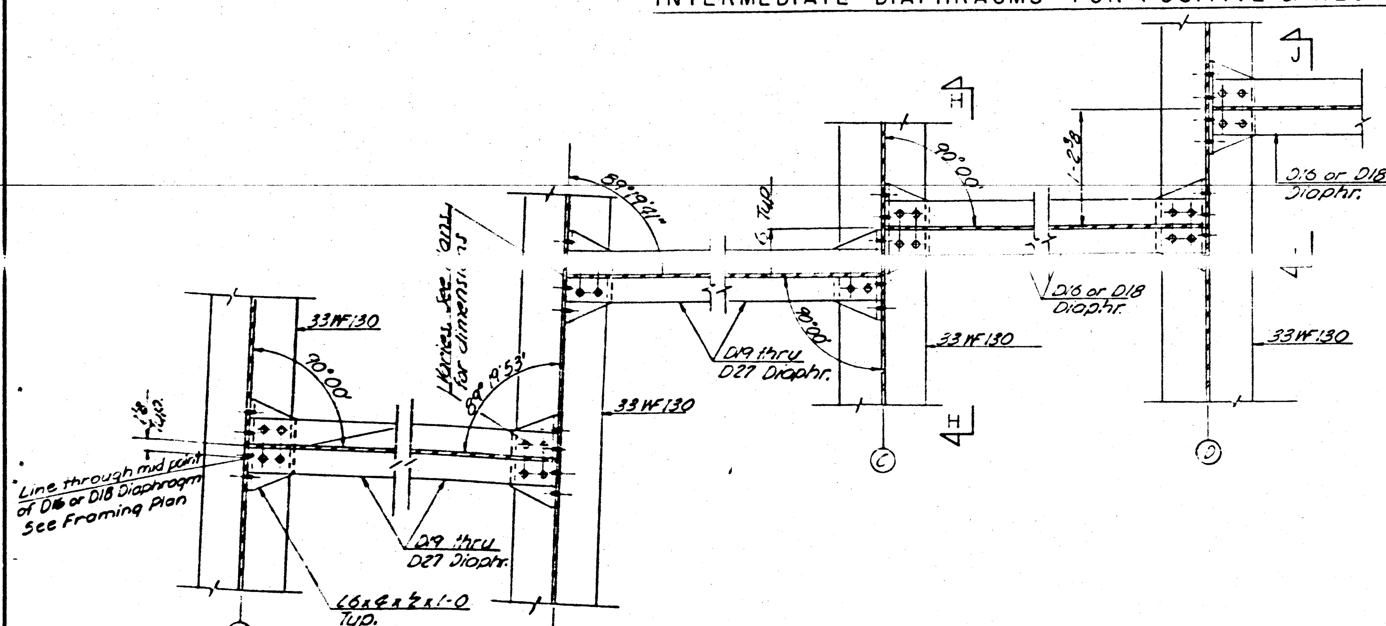
INTERMEDIATE DIAPHRAGMS FOR POSITIVE & NEGATIVE MOMENT AREA



SECTION H-H



SECTION J-J



SECTION G-G

INTERMEDIATE DIAPHRAGMS — LEFT BRIDGE
24 - D16 Diaphr. Req'd.
12 - D18 Diaphr. Req'd.
2 Each D19 thru D27

TABLE OF ELEVATIONS TOP OF STEEL BEAM (*)

		℄ Brg W. Abut	℄ Pier No. 1	℄ Splice At Span 2	℄ Pier No. 2	Span No. 3 ℄ Splice	Span No. 3 ℄ Splice	℄ Pier No. 3	℄ Brg. E. Abut.
LEFT BRIDGE	A	645.249	644.841	644.727	644.245	644.173	643.864	643.749	643.342
	B	645.343	644.924	644.806	644.363	644.237	643.919	643.802	643.383
	C	645.452	645.022	644.902	644.446	644.317	643.990	643.870	643.440
	E	645.504	645.074	644.954	644.498	644.369	644.042	643.922	643.492
	F	645.423	644.993	644.872	644.417	644.288	643.961	643.840	643.410
	G	645.305	644.875	644.754	644.298	644.169	643.842	643.722	643.292
RIGHT BRIDGE	H	645.253	644.823	644.703	644.247	644.118	643.791	643.671	643.261
	J	645.369	644.919	644.799	644.343	644.214	643.887	643.757	643.337
	K	645.411	644.981	644.860	644.404	644.275	643.949	643.828	643.398
	L	645.402	644.972	644.852	644.396	644.267	643.940	643.820	643.390
	M	645.324	644.896	644.774	644.318	644.189	643.862	643.742	643.312
	N	645.188	644.758	644.638	644.182	644.053	643.726	643.606	643.176
	P	645.066	644.616	644.496	644.040	643.911	643.584	643.464	643.034
	Q	644.904	644.474	644.354	643.898	643.769	643.442	643.322	642.892
	R	644.770	644.356	644.240	643.802	643.677	643.362	643.246	642.834

(*) El. of Beam Flange without Flange Splice Plate.
(For Fabrication only - Does not include D.L. Deflection.)

TOTAL COMPUTED WEIGHT OF FRAMING STRUCTURAL STEEL 554,700 LBS.
(TWO BRIDGES)

Rt. Bridge 312,820 Lbs
Lt. Bridge 241,880 Lbs

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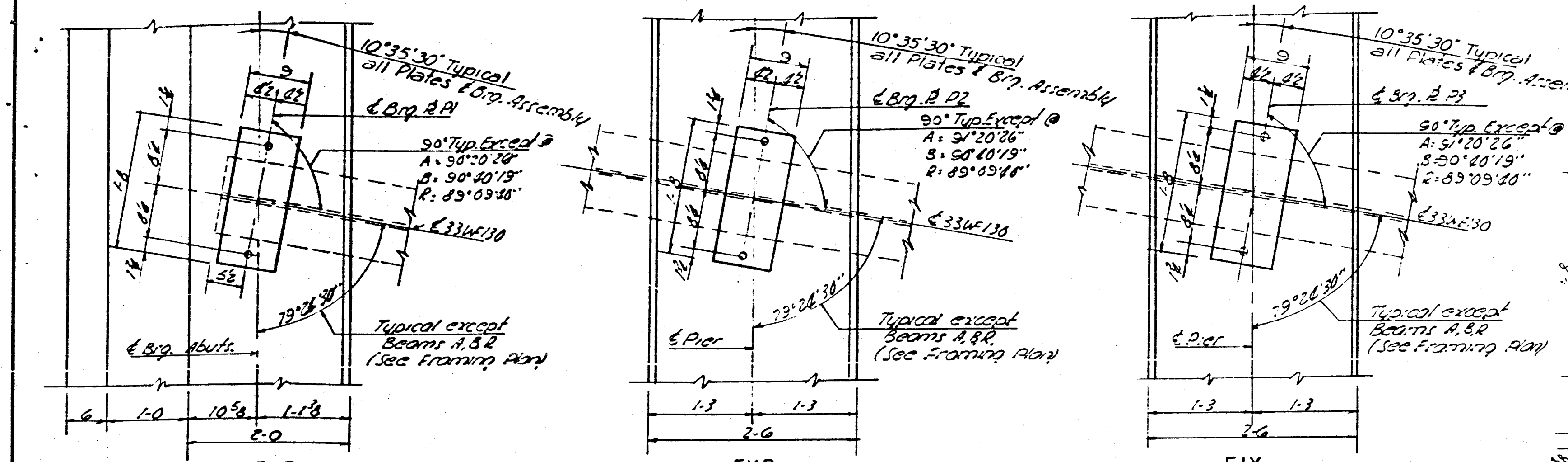
ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-IIVB-I
VERMILION COUNTY STA. 1900+80.59

STRUCTURAL STEEL FRAMING DETAILS

DESIGNED	DRAWN	TRACED	CHECKED		
JT	JT	CRB	DOR LDB	HSM 7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-IIVB-1	VERMILION	74	29
FEDERAL ROAD DISTRICT NO. 7	ILLINOIS	PROJ.		



EXP. AT ABUTMENTS

EXP. AT PIERS NO. 1 & NO. 3

FIX. AT PIER NO. 2

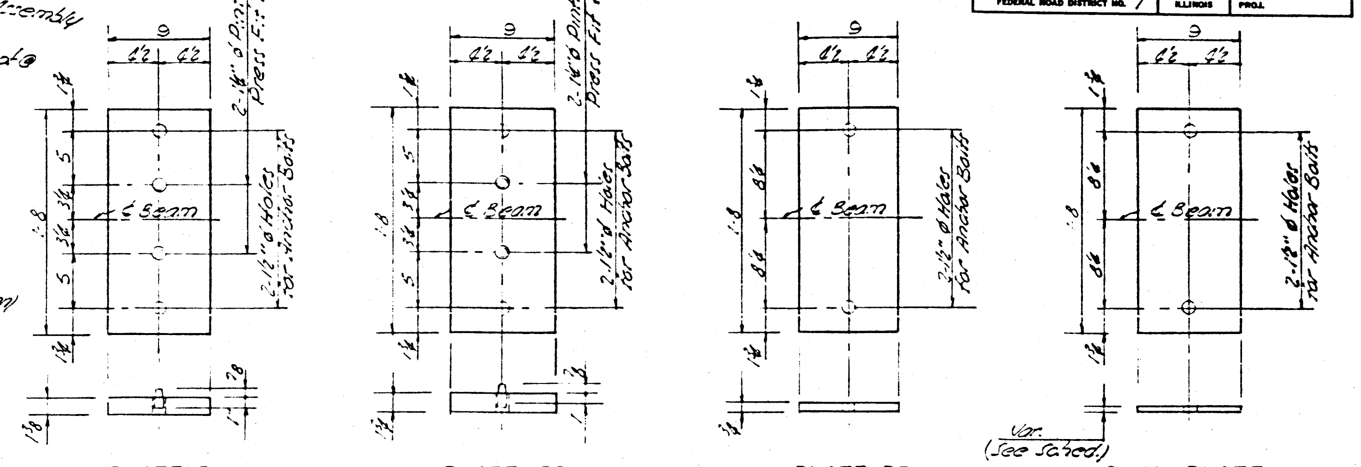
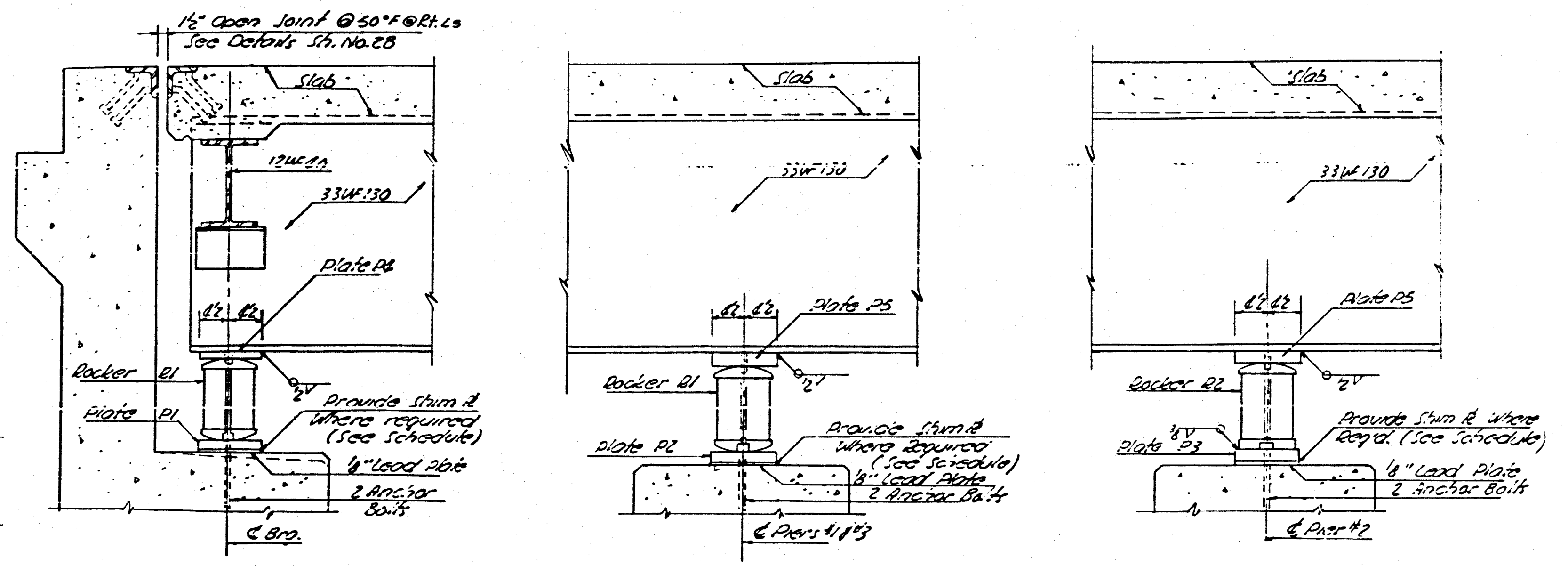


PLATE P1 (32 Req'd)

PLATE P2 (32 Req'd)

PLATE P3 (16 Req'd)

SHIM PLATE (21 Req'd)



AT ABUTMENTS

AT PIERS NO. 1 & NO. 3

AT PIER NO. 2

ELEVATIONS OF BEARING DEVICES, RIGHT & LEFT BRIDGES

(At Right Angles to ℄ of Beams)

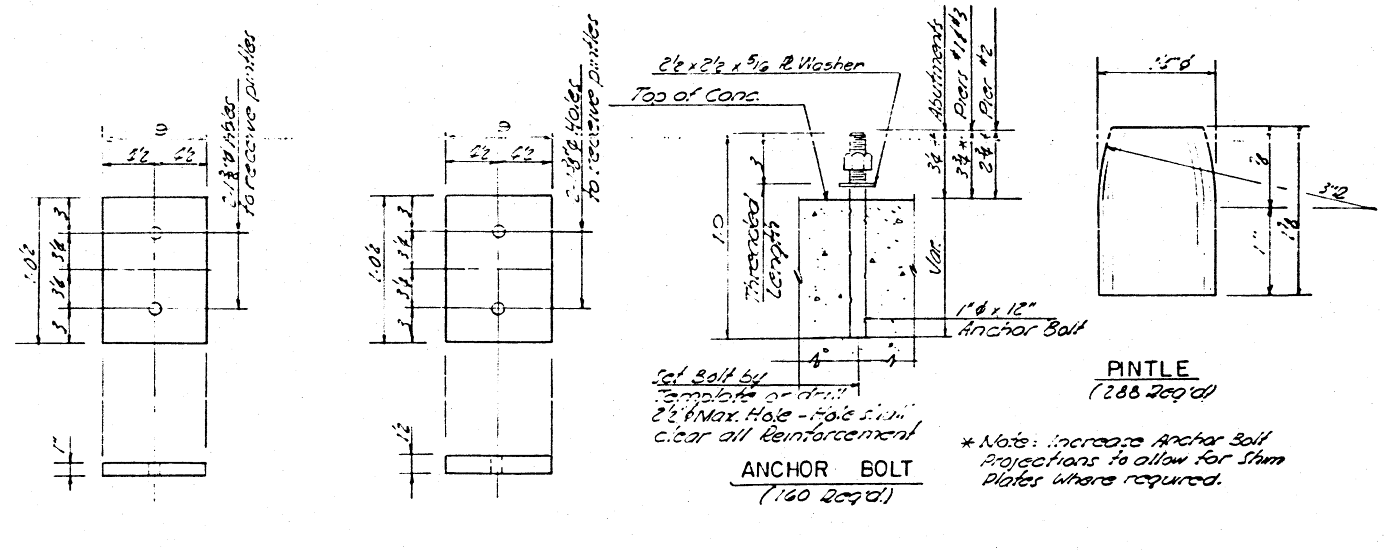


PLATE P4 (32 Req'd)

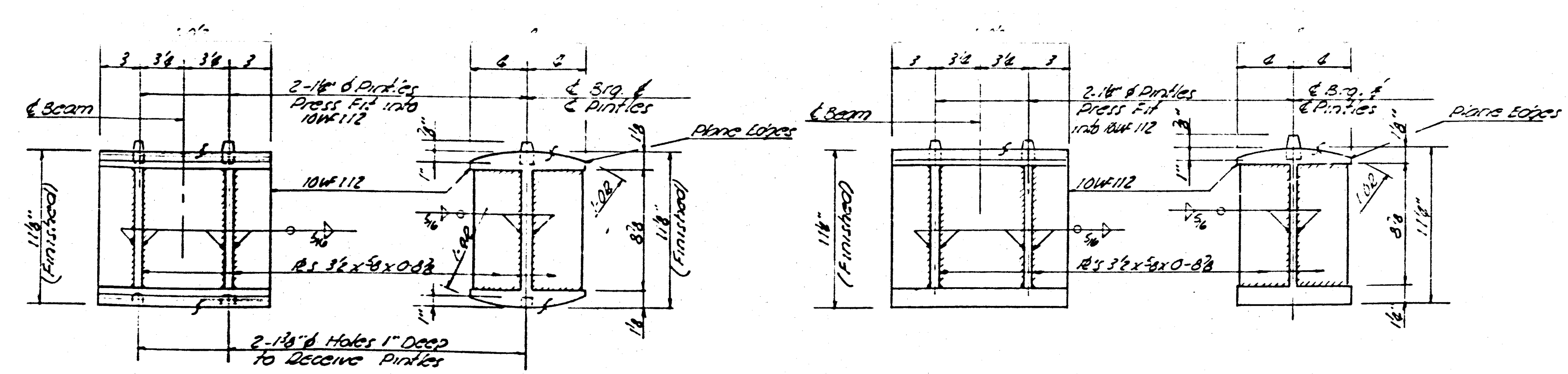
PLATE P5 (28 Req'd)

ANCHOR BOLT (160 Req'd)

PINTLE (288 Req'd)

* Note: Increase Anchor Bolt Projections to allow for Shim Plates where required.

TOTAL COMPUTED WEIGHT OF BEARING DEVICES			
ITEM	RT. BRIDGE	LT. BRIDGE	TOTAL
Structural Steel	12,610 Lbs.	9,850 Lbs.	22,460



ROCKER R1 (68 Req'd)

ROCKER R2 (16 Req'd)

ROCKER DETAILS

SHIM PLATE THICKNESS SCHEDULE (INCHES)

Location \ Beam	Left Bridge A	B	C	D	E	F	G	Right Bridge H	J	K	L	M	N	P	Q	R
W. Abut.	—	—	⅛	⅛	—	—	—	—	⅛	⅛	—	—	—	—	—	—
Pier #1	—	—	⅛	⅛	—	—	—	—	⅛	⅛	—	—	—	—	—	—
Pier #2	—	—	⅛	⅛	—	—	—	—	⅛	⅛	—	—	—	—	—	—
Pier #3	⅛	—	⅛	⅛	—	—	—	—	⅛	⅛	—	—	—	—	—	—
E. Abut.	—	½	—	⅛	—	—	—	—	⅛	⅛	—	—	—	—	—	—

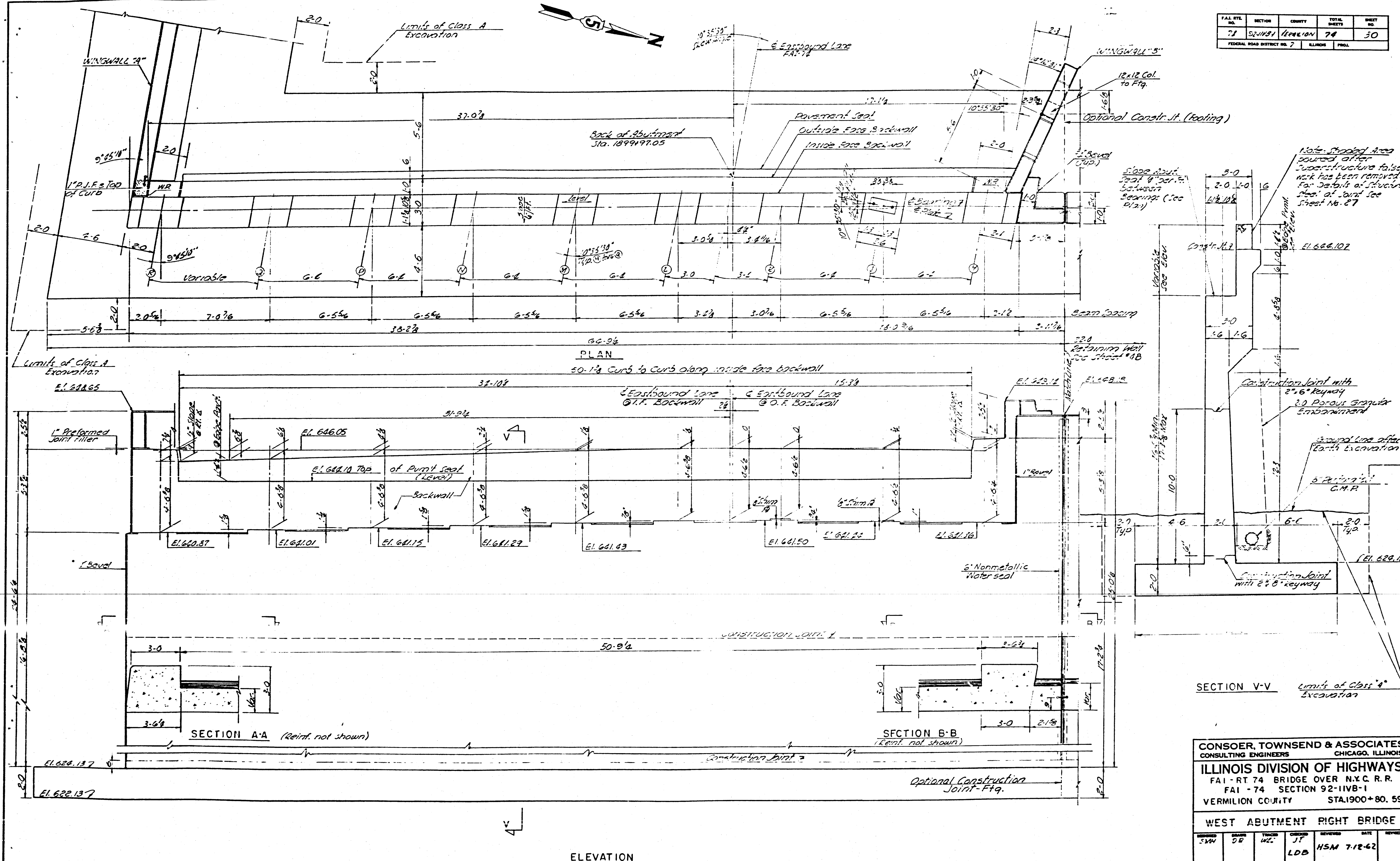
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-IIVB-1
VERMILION COUNTY STA. 1900+80.59

STRUCTURAL STEEL BEARING DEVICES

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CRS	CRB	WES	JWH LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-IIVB-1	VERMILION	74	30
FEDERAL ROAD DISTRICT NO. 7	ILLINOIS	PROJ.		



CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI - RT 74 BRIDGE OVER N.Y.C. R.R.
FAI - 74 SECTION 92-IIVB-1
VERMILION COUNTY STA.1900+80.59

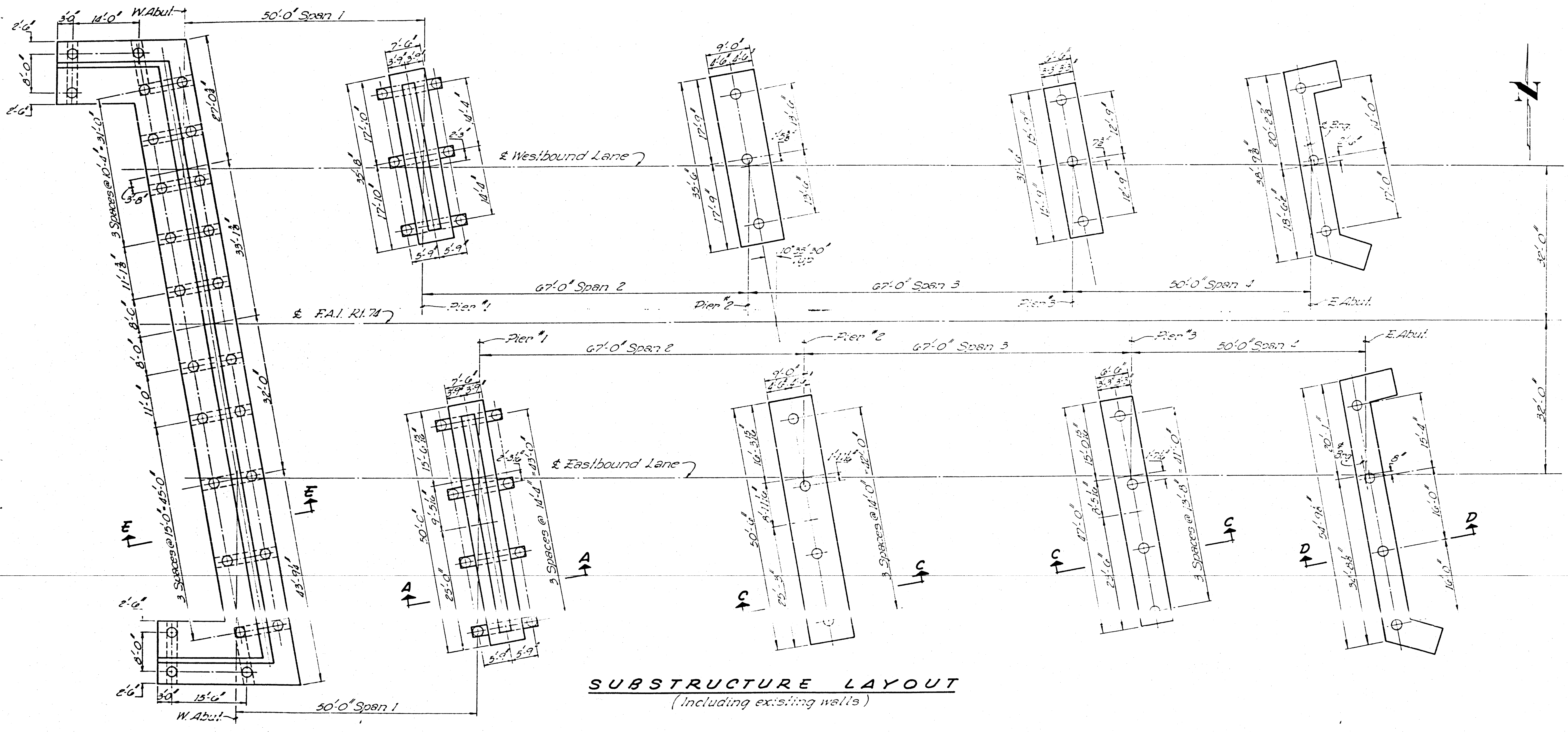
WEST ABUTMENT RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SWH	DB	WL	JT LDB	HSM	7-12-62	

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 30A
SHEETS



SUBSTRUCTURE LAYOUT
(Including existing walls)

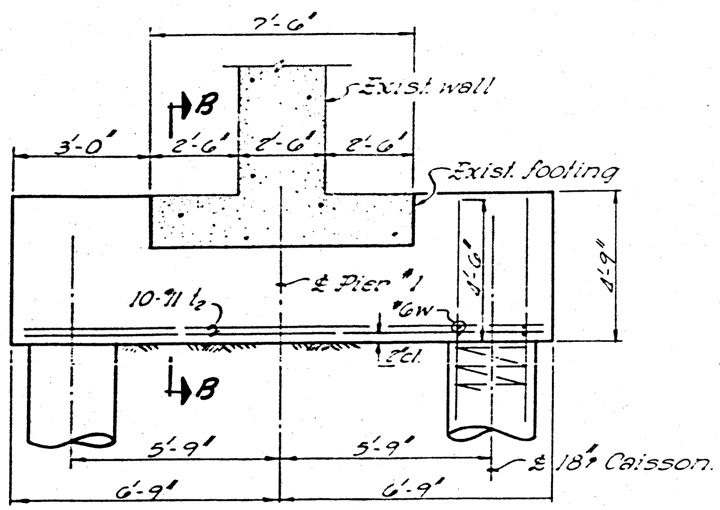
DESIGNED	Eugene Beaty
CHECKED	J. Mullenix
DRAWN	
CHECKED	HLO

19
EXAMINED
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

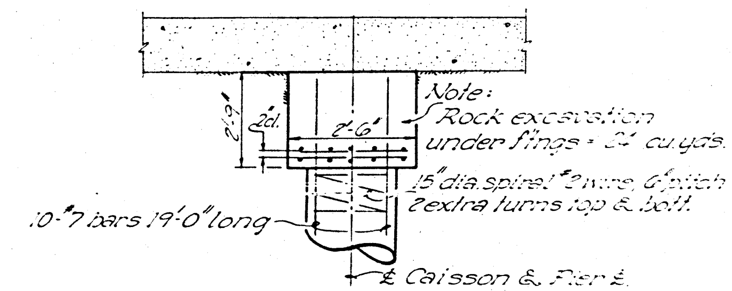
CAISSON ARRANGEMENT
F.A.I. RT. 74 SEC. 92-11VB-1
VERMILION COUNTY
STATION 1900 + 60.59

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

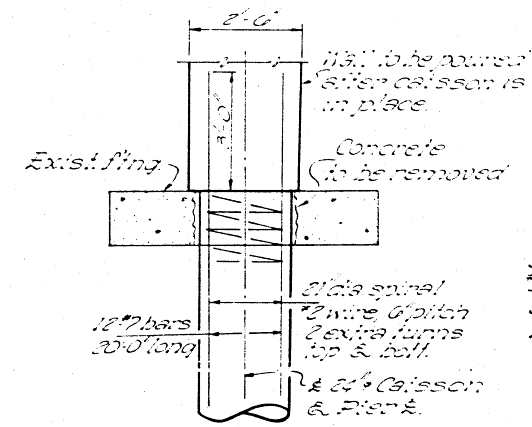
SHEET NO 30B
SHEETS



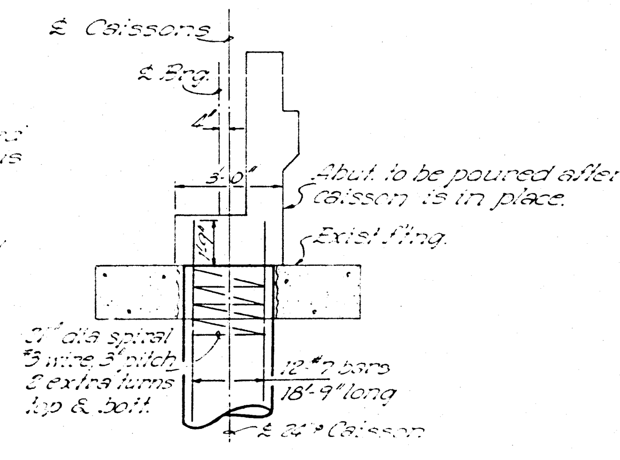
SEC. A-A



SEC. B-B



SEC. C-C

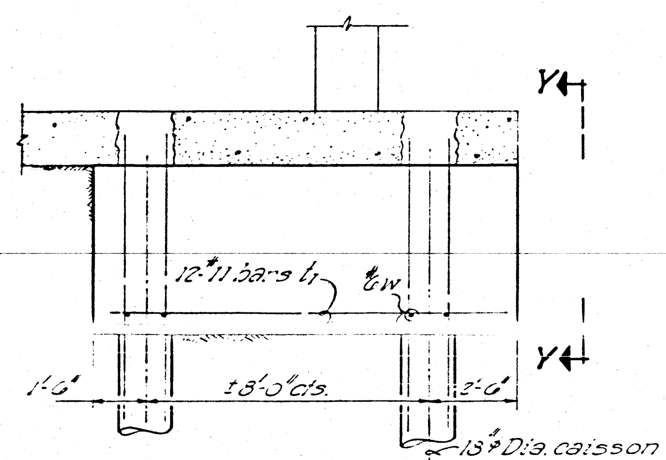


SEC. D-D

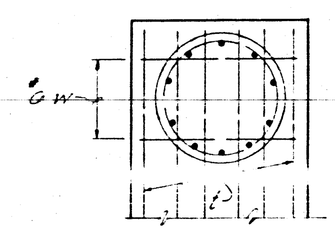
Note : Cost of furnishing caisson reinf, concrete & breaking thru exist. footings shall be included in cost of caisson.

CAISSON DATA

Location	Dia.	Est. Length	No. Req'd
W. Abut.	18"	64'-0"	26
Pier #1	18"	54'-0"	14
Pier #2	24"	55'-0"	7
Pier #3	24"	61'-0"	7
E. Abut.	24"	83'-0"	7



SMALL BM. THRU ABUT.



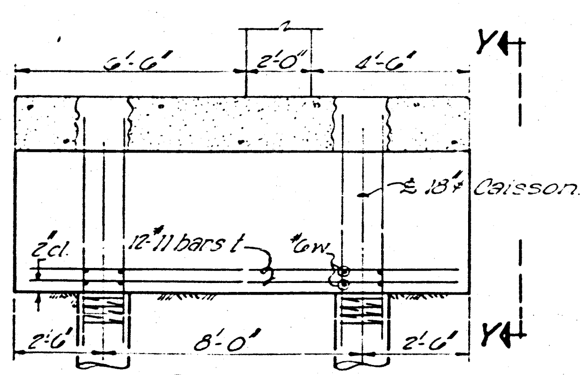
ENLARGED PLAN-SEC. X-X

BAR LIST

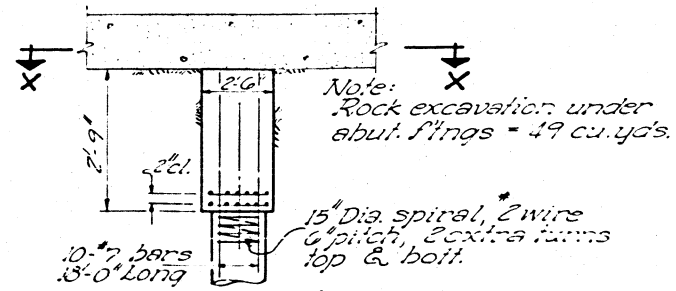
Bar	No.	Size	Length	Shape
l	120	#11	12'-6"	——
l_1	48	#11	11'-6"	——
[illegible]	[illegible]	[illegible]	[illegible]	——
w	160	#6	2'-3"	——

BILL OF MATERIALS

Item	Unit	Quantity
Rock Excavation	Cu. Yds.	73.0
Class X Concrete	Cu. Yds.	87.5
Reinforcement Bars	Lbs	16,230
Caisson Shaft 18"ϕ	Cu. Ft.	208.5
Caisson Shaft 24"ϕ	Cu. Ft.	625.2



SEC. E-E



VIEW Y-Y

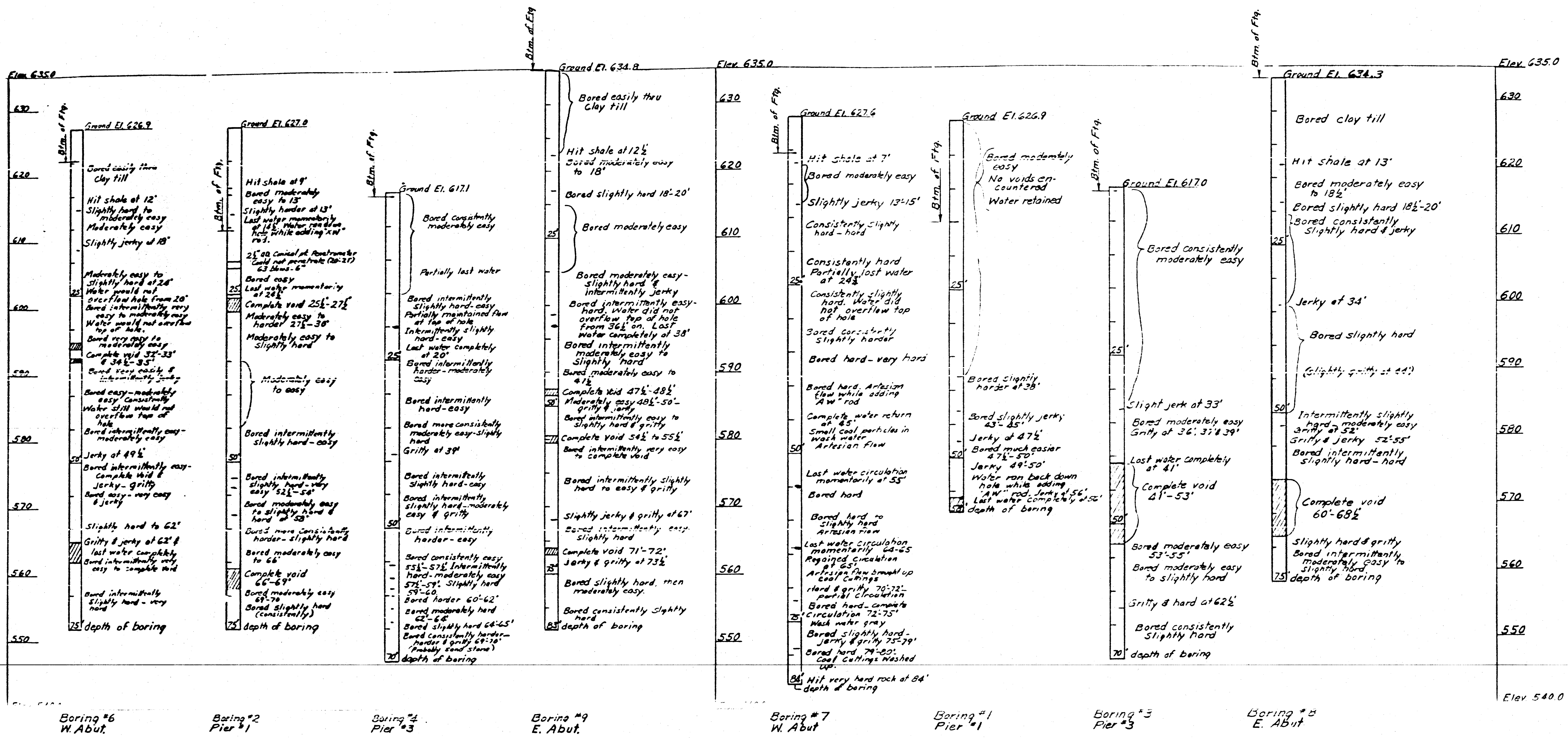
DESIGNED	Eugene Beatty
CHECKED	
	J. Mullenix
DRAWN	
CHECKED	HLO

EXAMINED
PASSED
APPROVED

CAISSON DETAILS
F.A.I. RT. 74 SEC. 92-11VB-1
VERMILION COUNTY
STATION 1900 + 60.59

Sheet No. 300

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



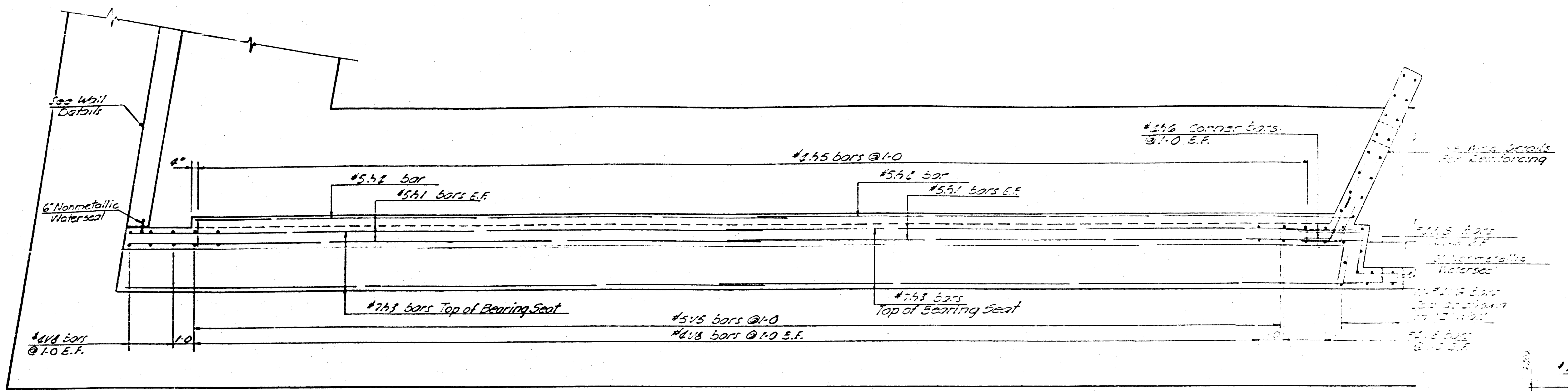
West Bound (North Structure)

East Bound (South Structure)

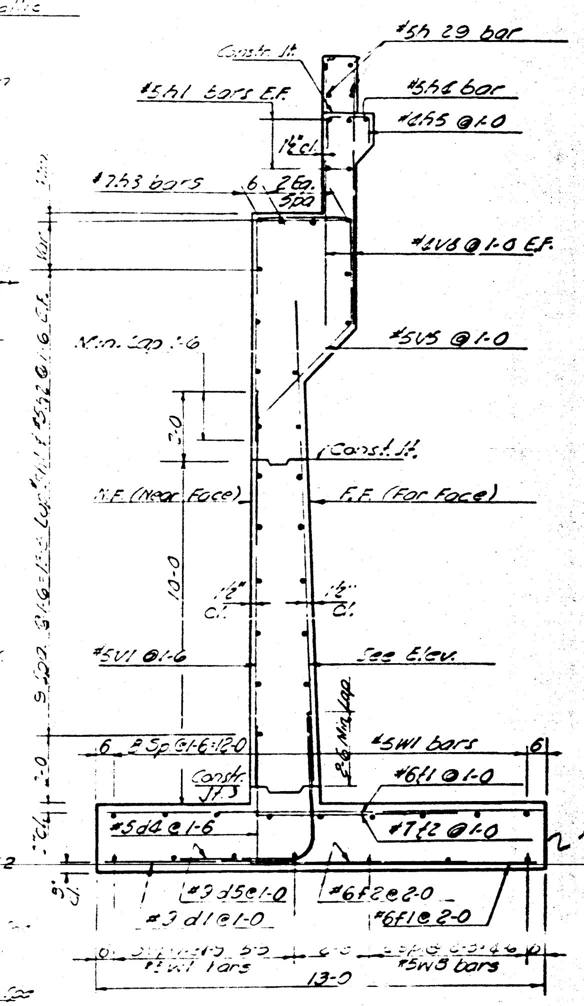
DESIGNED E.B.	EXAMINED
CHECKED	PASSED
DRAWN WMB	
CHECKED	

BORINGS
FAI Rt 74
SEC. 92-11 VB-1
VERMILION COUNTY
STATION 1900+60.59

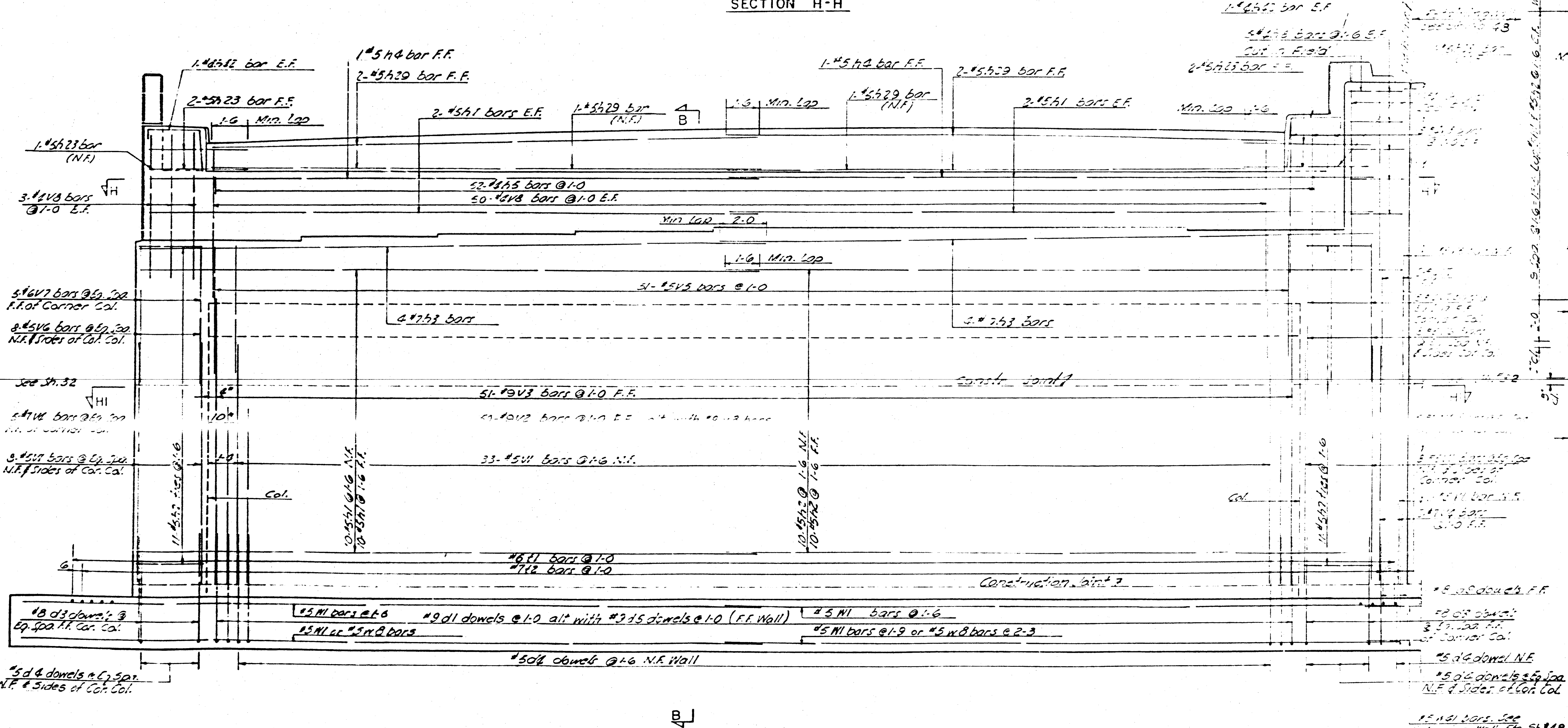
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	31
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



SECTION H-H



SECTION B-B



B
ELEVATION SHOWING REINFORCING

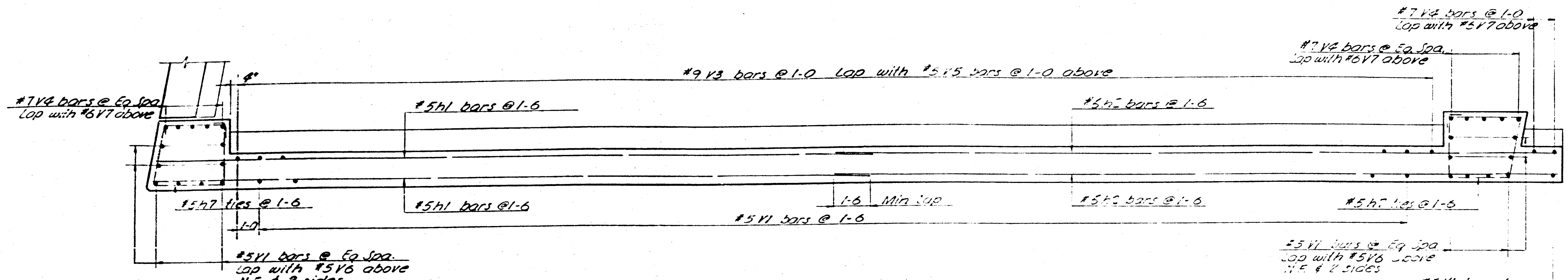
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS — CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 BRIDGE OVER N.Y.C. R. R.
FAI - 74 SECTION 92-11VB-1
VERMILION COUNTY — STA. 1900+80.59

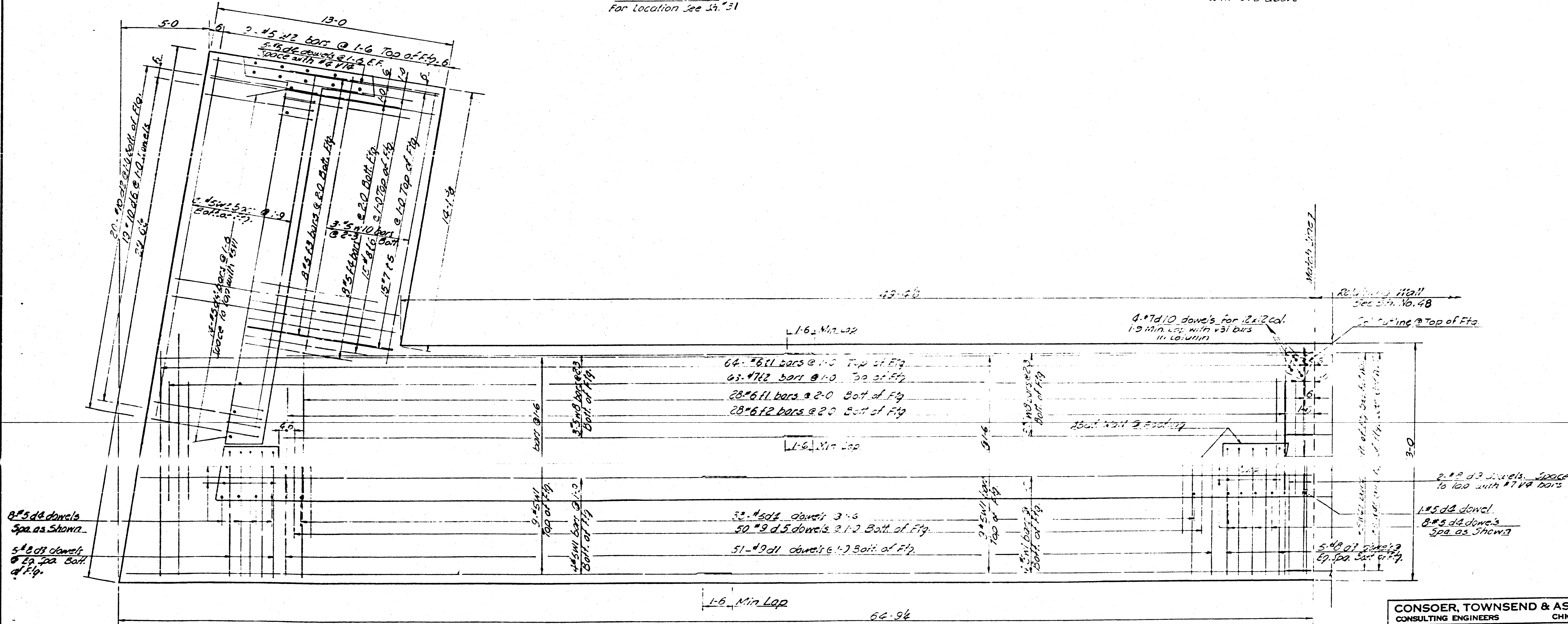
WEST ABUTMENT RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	CEB	WES	JT LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	32
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



SECTION HI-HI
For Location See Sh. #31



FOOTING PLAN SHOWING REINFORCING

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

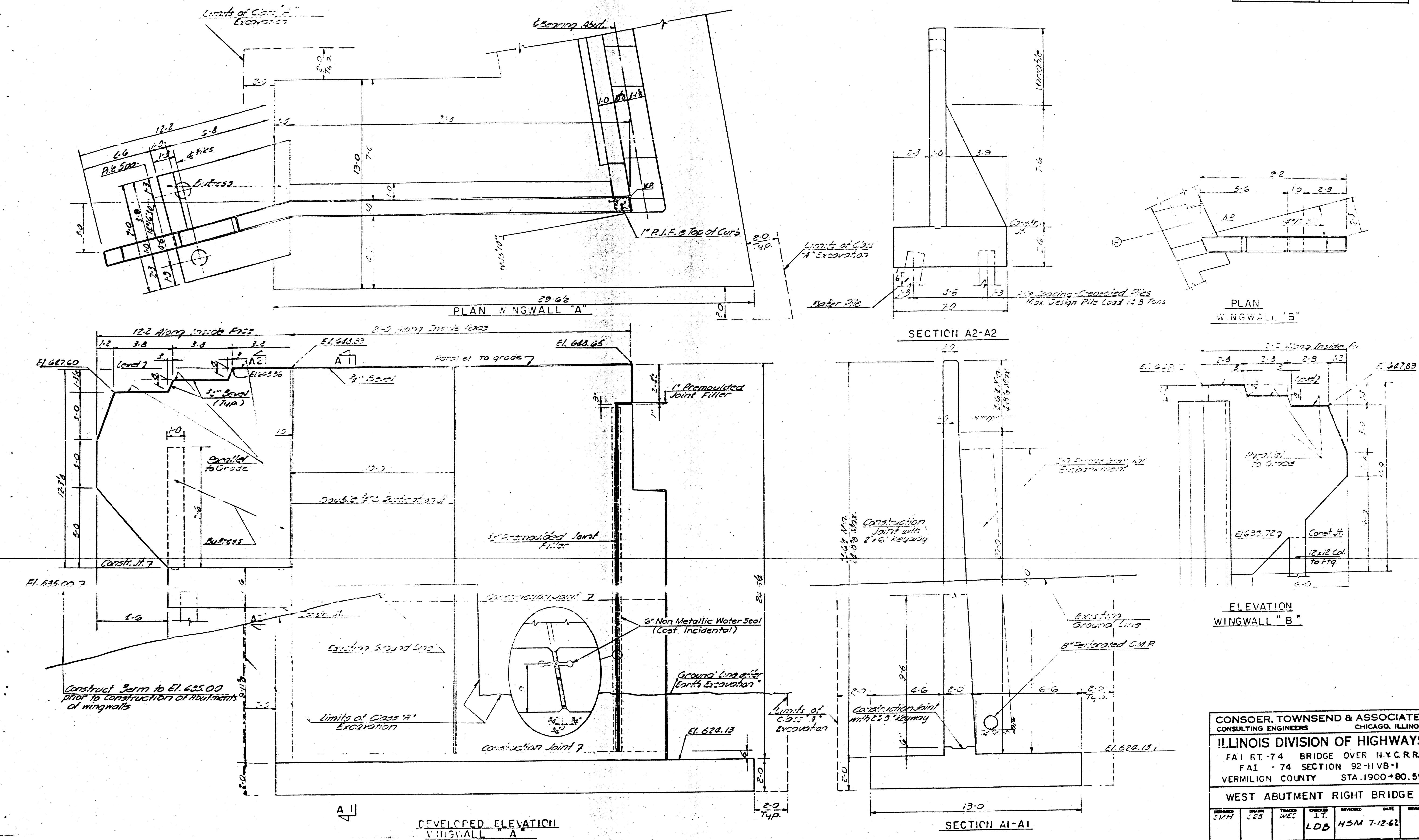
ILLINOIS DIVISION OF HIGHWAYS

FAI RT.- 74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-11VB-1
VERMILION COUNTY STA. 1900+80.59

WEST ABUTMENT RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	CDB	W.E.	JT LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	33



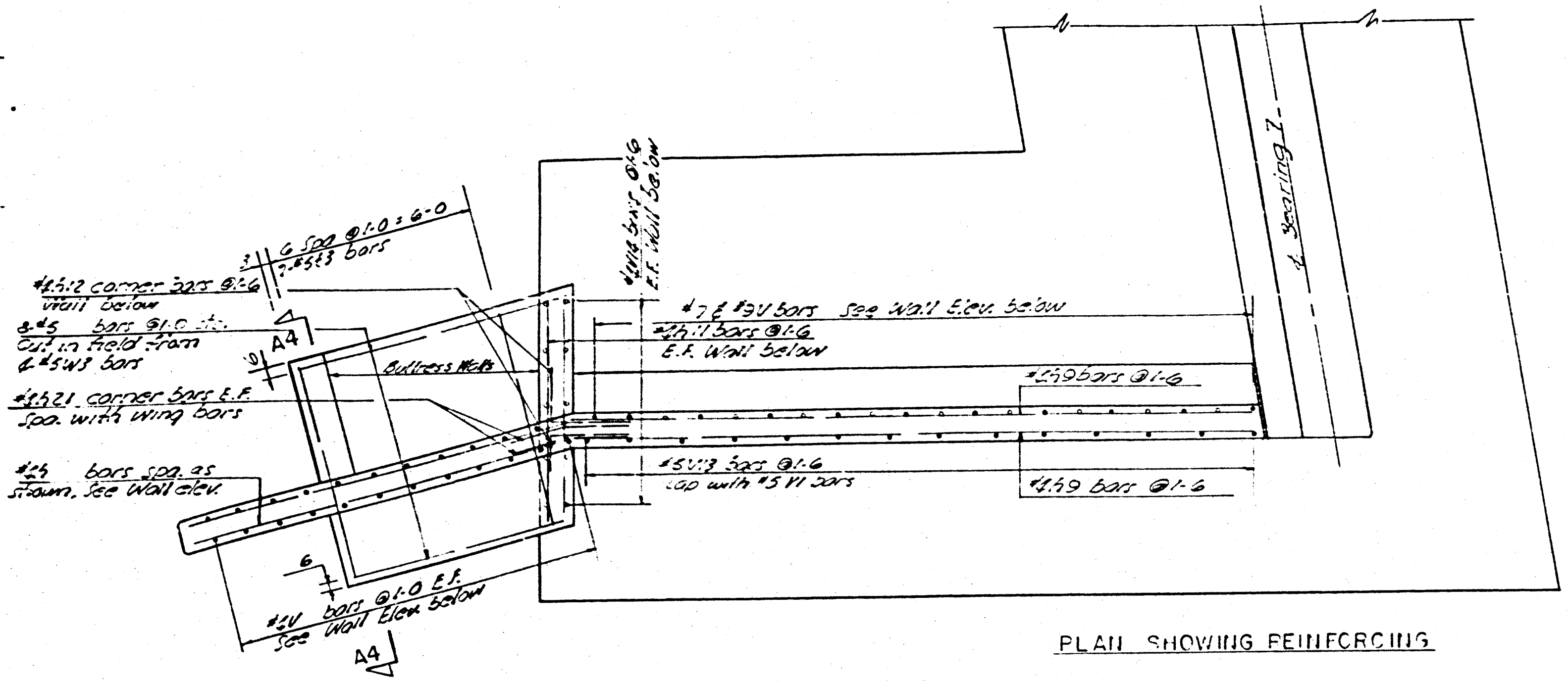
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 BRIDGE OVER N.Y.C.R.R.
FAI - 74 SECTION 92-11 VB-1
VERMILION COUNTY STA. 1900+80.59

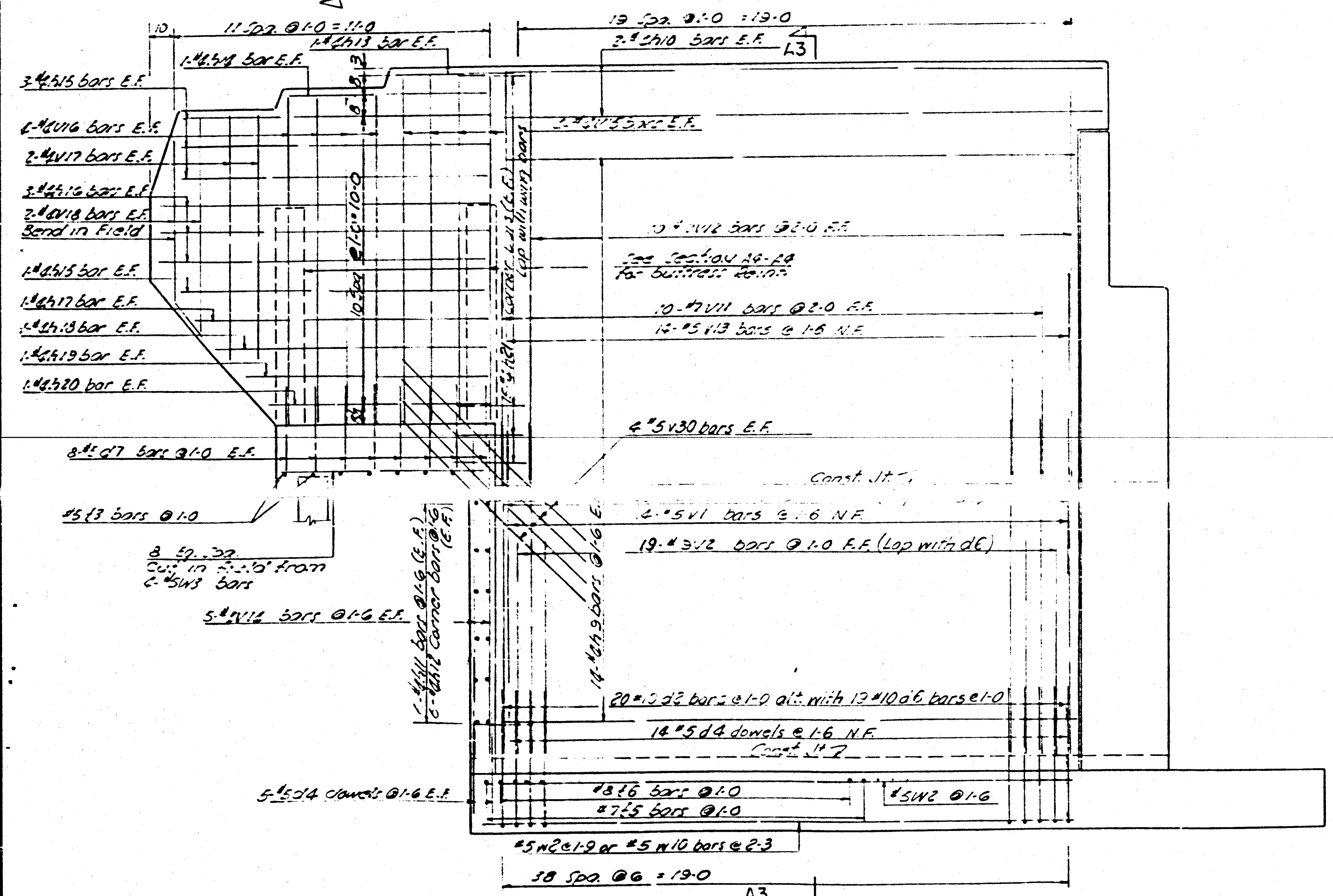
WEST ABUTMENT RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	CRB	WES	J.T. LDB	HSM	7-12-62	

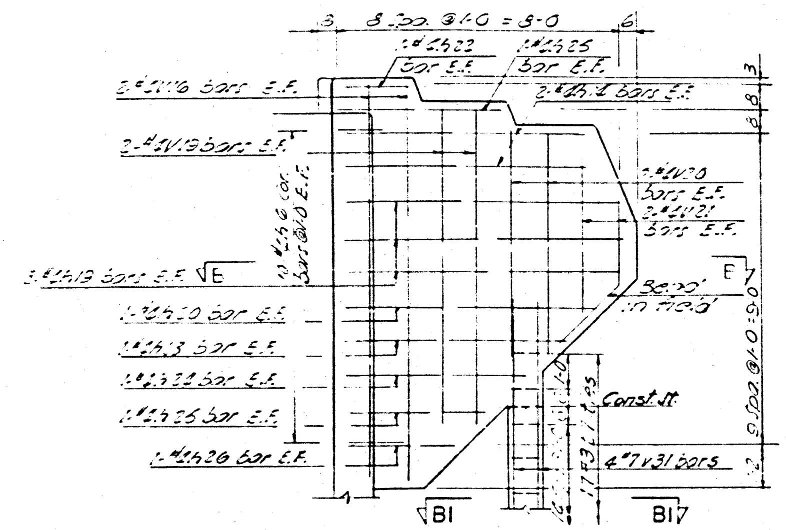
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-IIVB-1	VERMILION	74	34
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



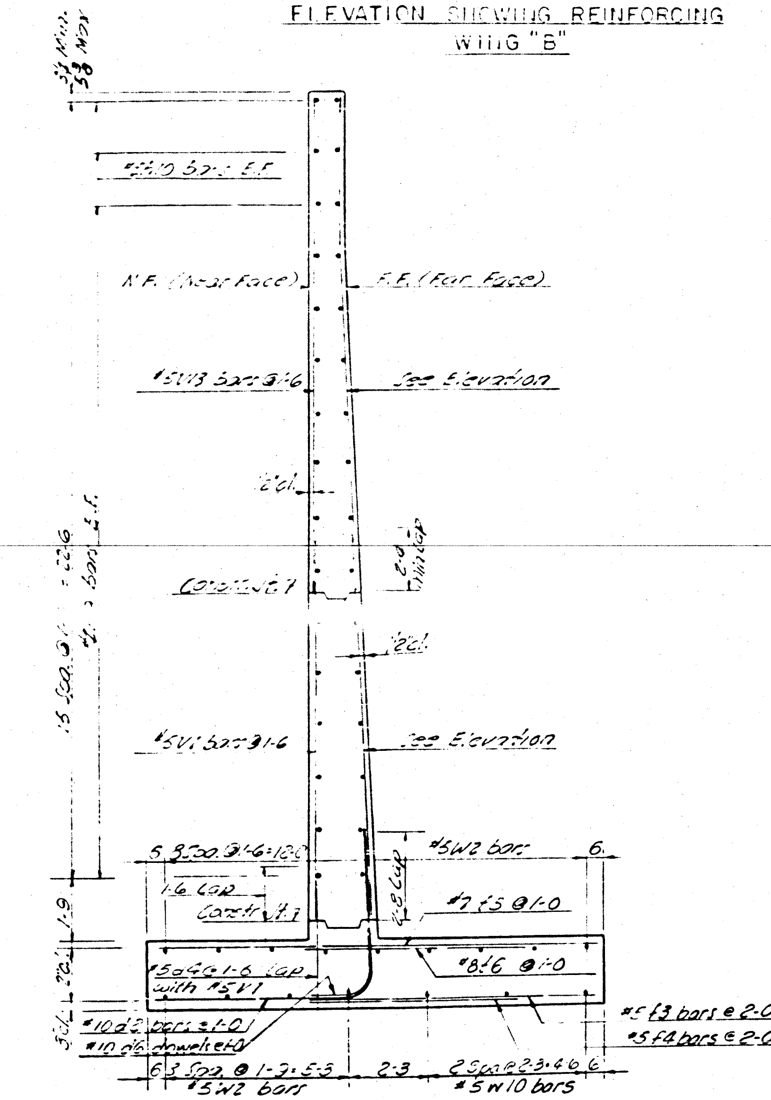
PLAN SHOWING REINFORCING



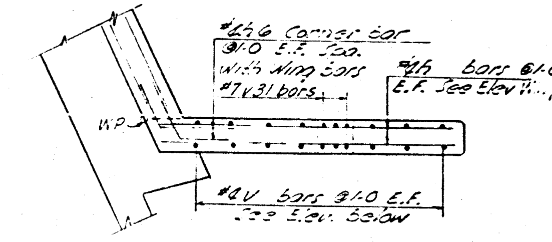
ELEVATION SHOWING REINFORCING
WINGWALL "A"



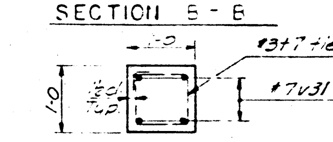
ELEVATION SHOWING REINFORCING
WING "B"



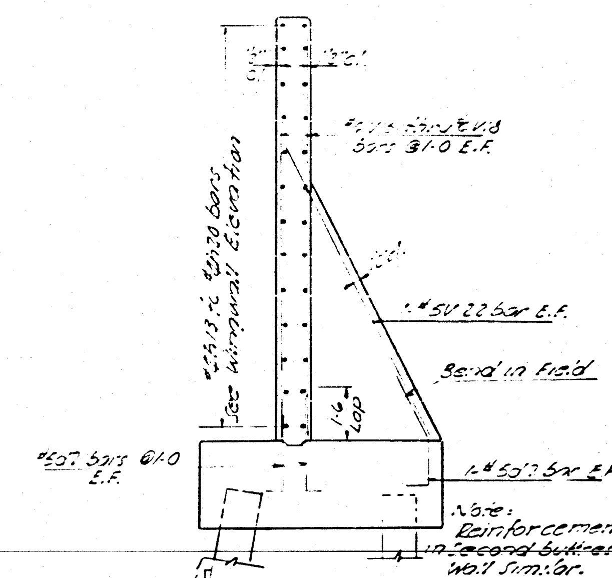
SECTION A3-A3



SECTION B-B



SECTION BI-BI



SECTION A4-A4

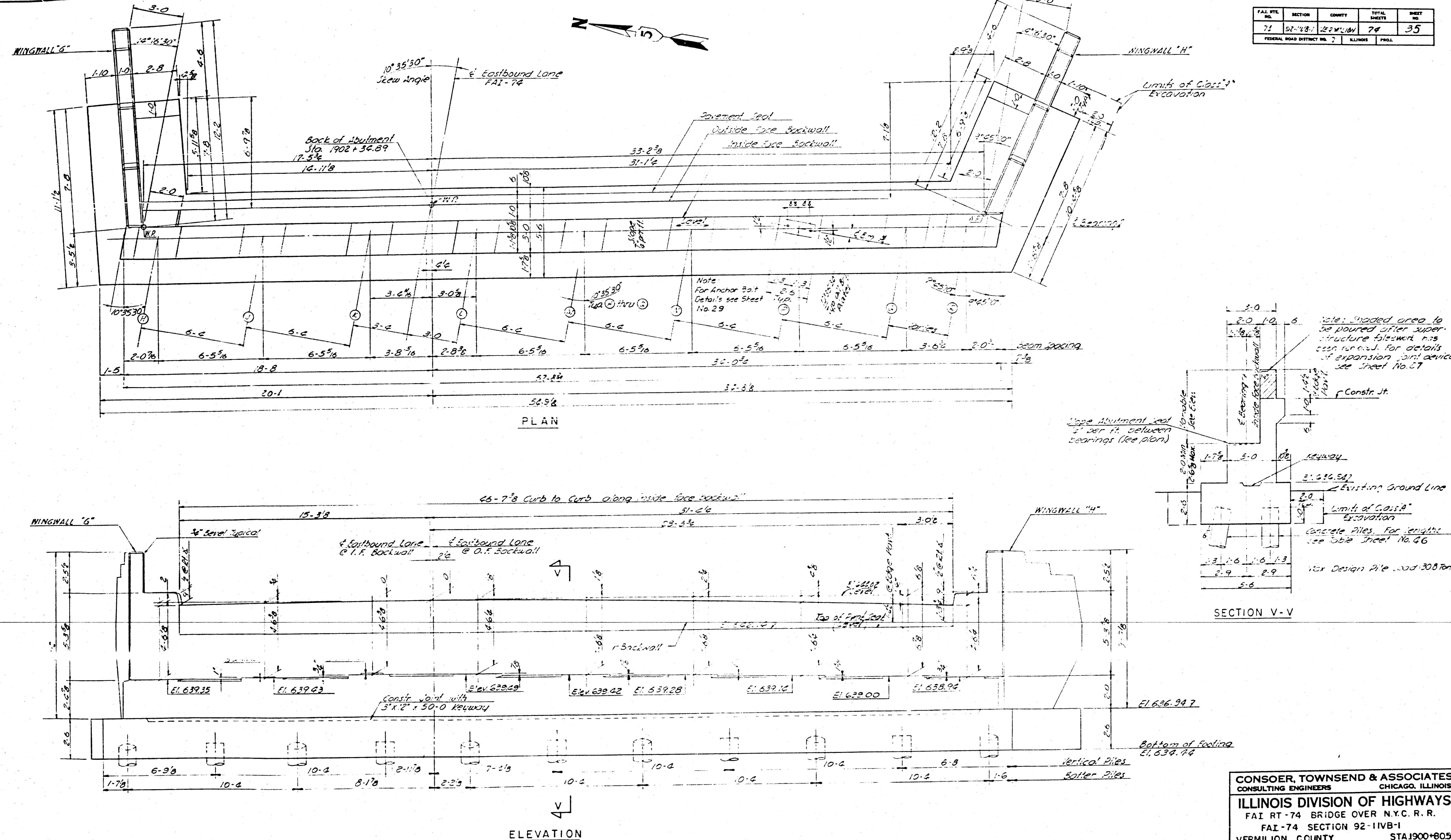
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT-74 BRIDGE OVER NYC R.R.
FAI-74 SECTION 92-IIVB-1
VERMILION COUNTY STA1900+80.59

WEST ABUTMENT RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	DDB	WEF	JT LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	35
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



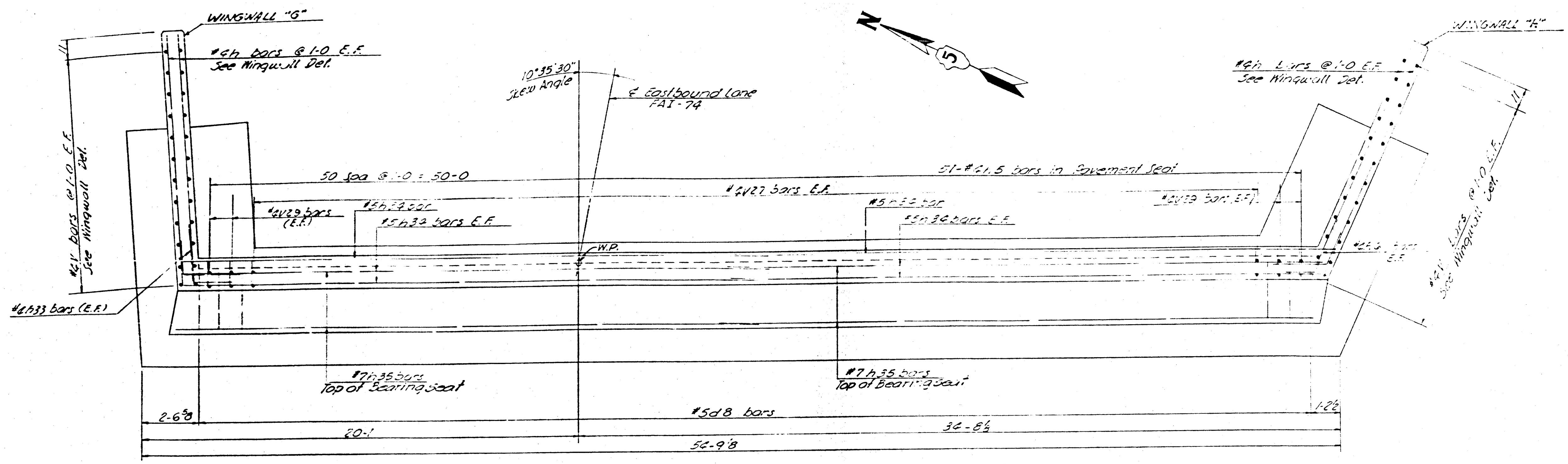
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS — CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-11VB-1
VERMILION COUNTY — STA.1900+80.59

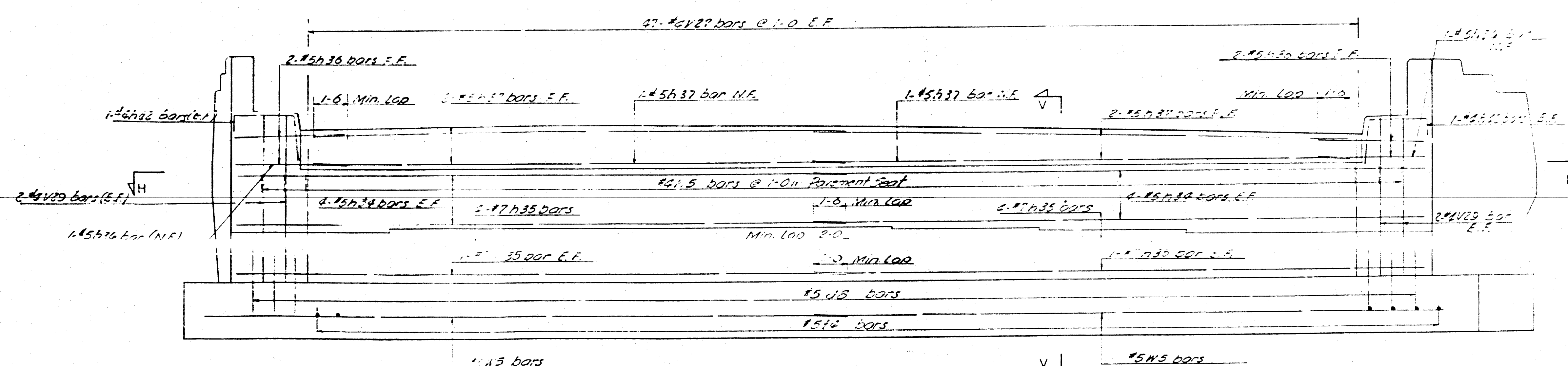
EAST ABUTMENT RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLF	CRB	CRB	LDB	HSM	7-12-62	

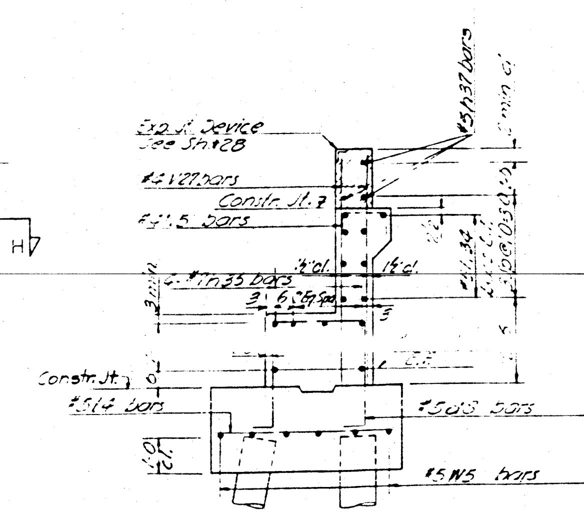
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-IIVB-1	VERMILION	74	36
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



SECTION H-H



ELEVATION SHOWING REINFORCING



SECTION V-V

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS

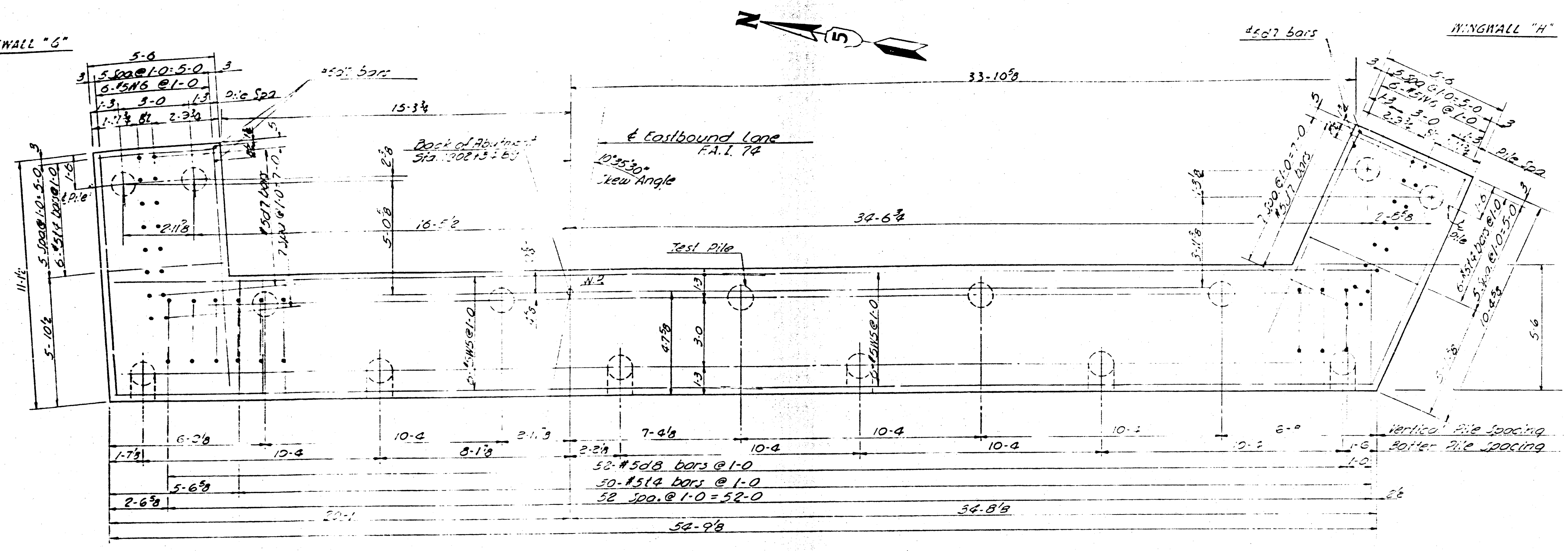
FAI RT.-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-IIVB-1
VERMILION COUNTY STA.1900+80.59

EAST ABUTMENT RIGHT BRIDGE

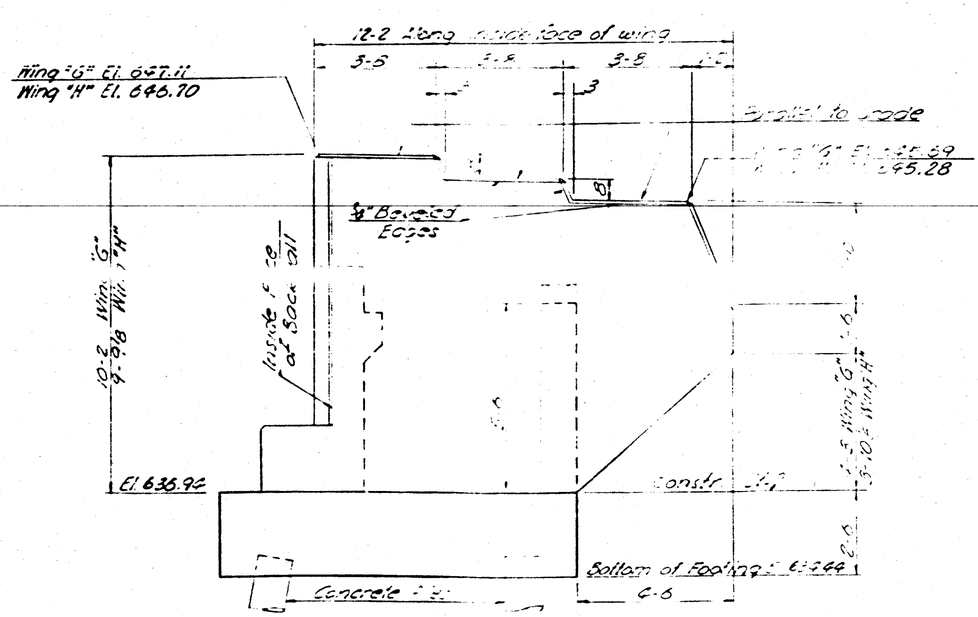
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLF	CRB	CRB	LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-1IVB-1	VERMILION	74	37

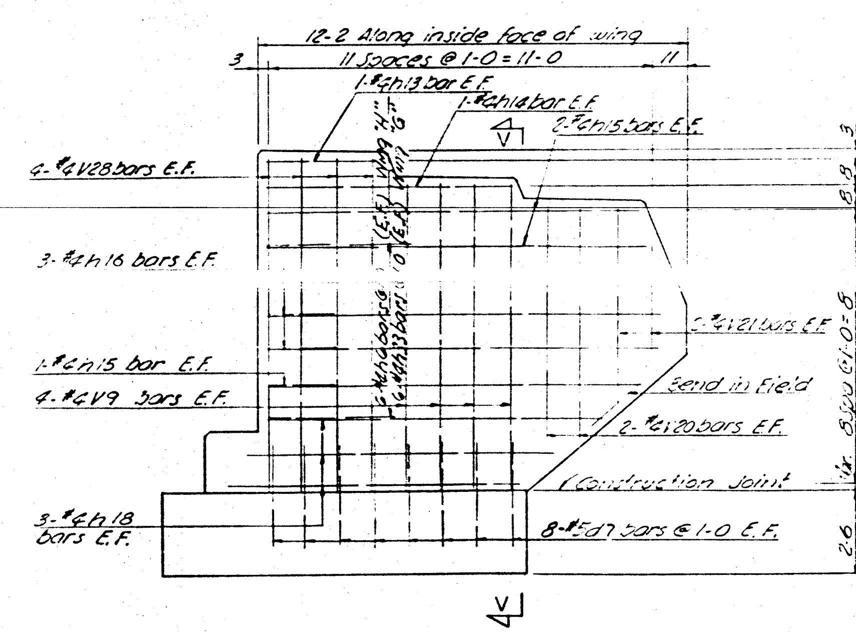
FEDERAL ROAD DISTRICT NO. 3 ILLINOIS PROJ.



FOOTING PLAN SHOWING REINFORCING

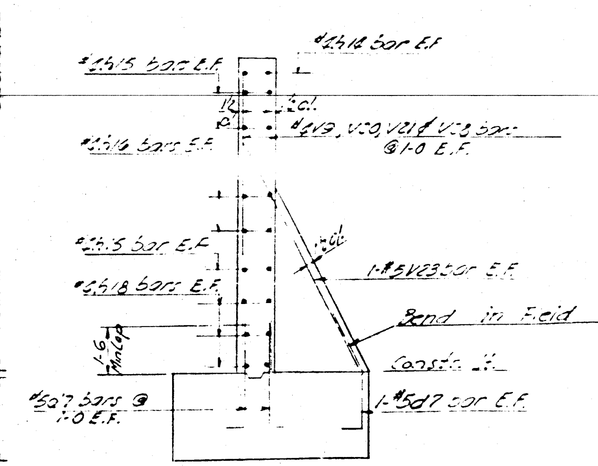


WINGWALL ELEVATION



WINGWALL REINFORCING, WINGS G & H

(See Footing Plan this sheet for footing reinforcing)



SECTION V-V

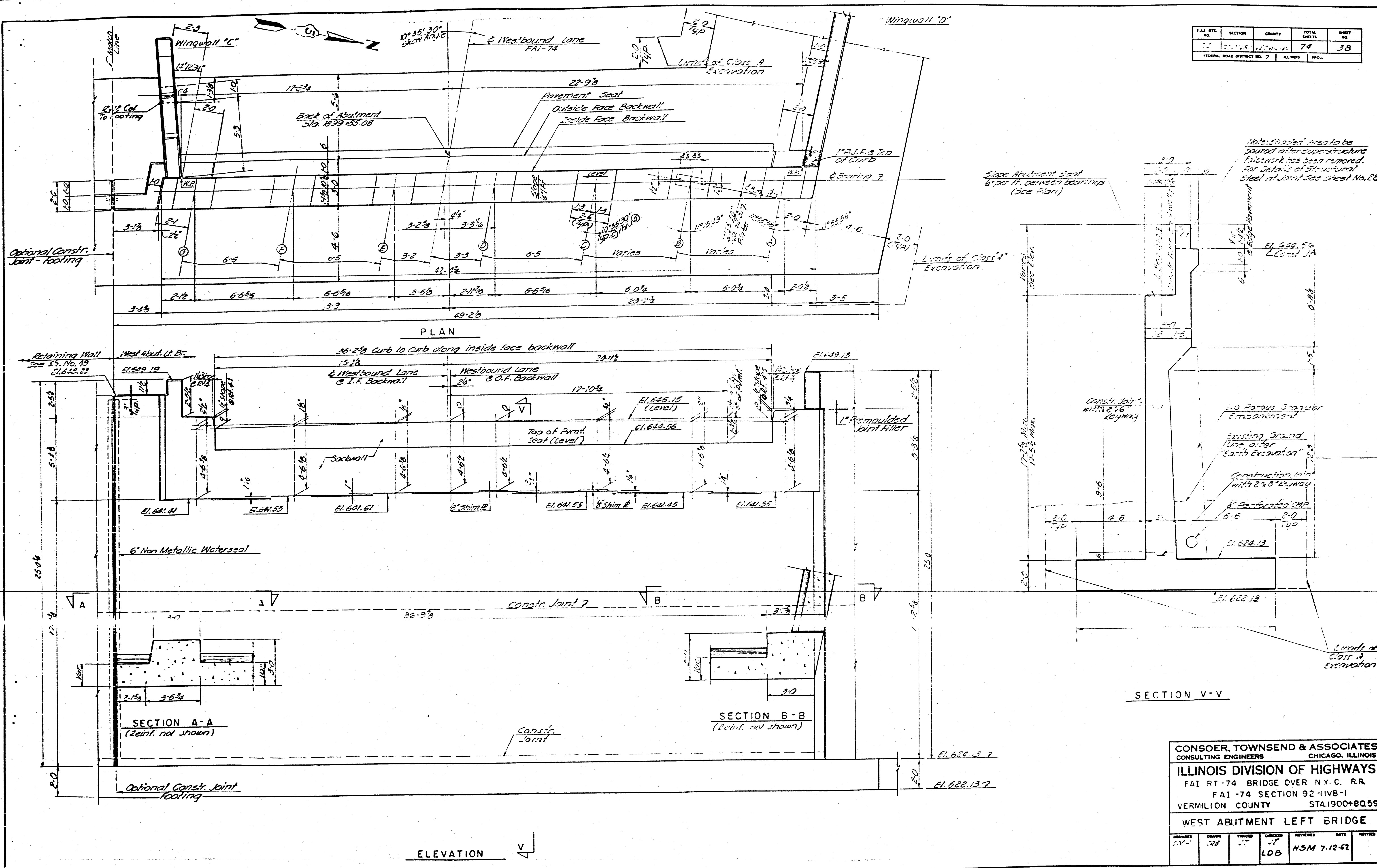
Typical Wingwalls G & H

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-1IVB-1
VERMILION COUNTY STA.1900+80.59

EAST ABUTMENT RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLF	CRB	CRB	J.T. LDB	HSM	7-12-62	



F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	38

FEDERAL ROAD DISTRICT NO. 7 | ILLINOIS | PROJ.

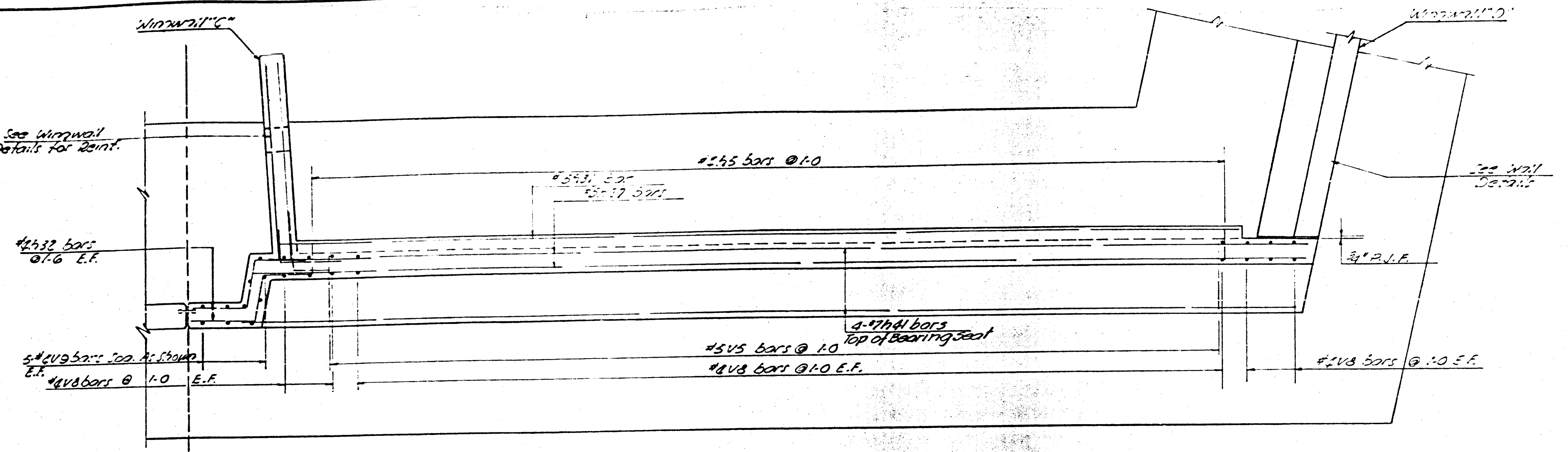
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-11VB-1
VERMILION COUNTY STA.1900+80.59

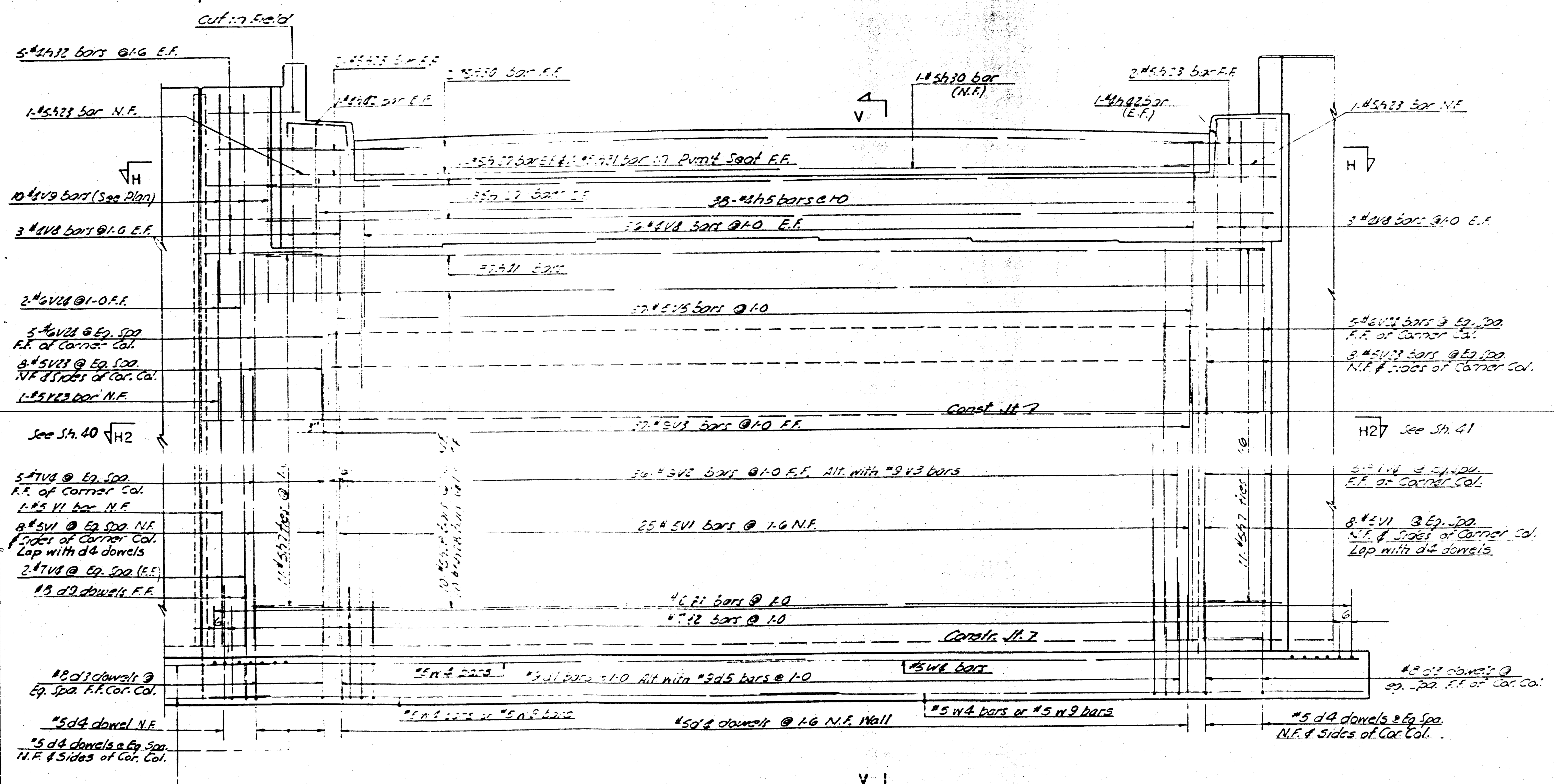
WEST ABUTMENT LEFT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
			LDB	HSM	7-12-62	

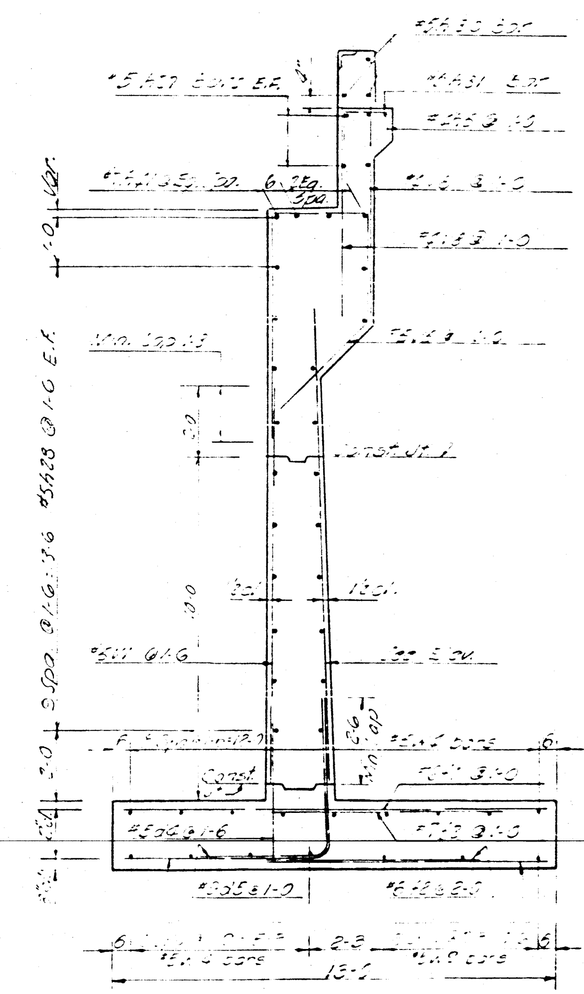
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-IIVB-1	VERMILION	74	39
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



SECTION H-H



ELEVATION SHOWING REINFORCING



SECTION V-V

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

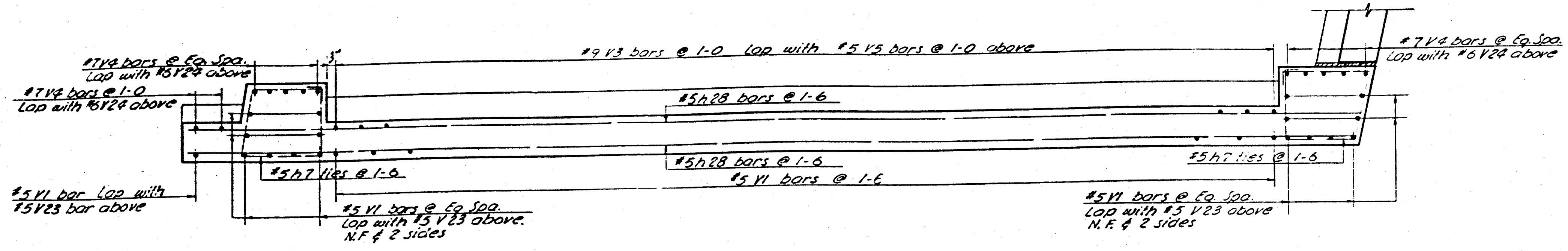
ILLINOIS DIVISION OF HIGHWAYS

FAI RT-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-IIVB-1
VERMILION COUNTY STA.1900+60.59

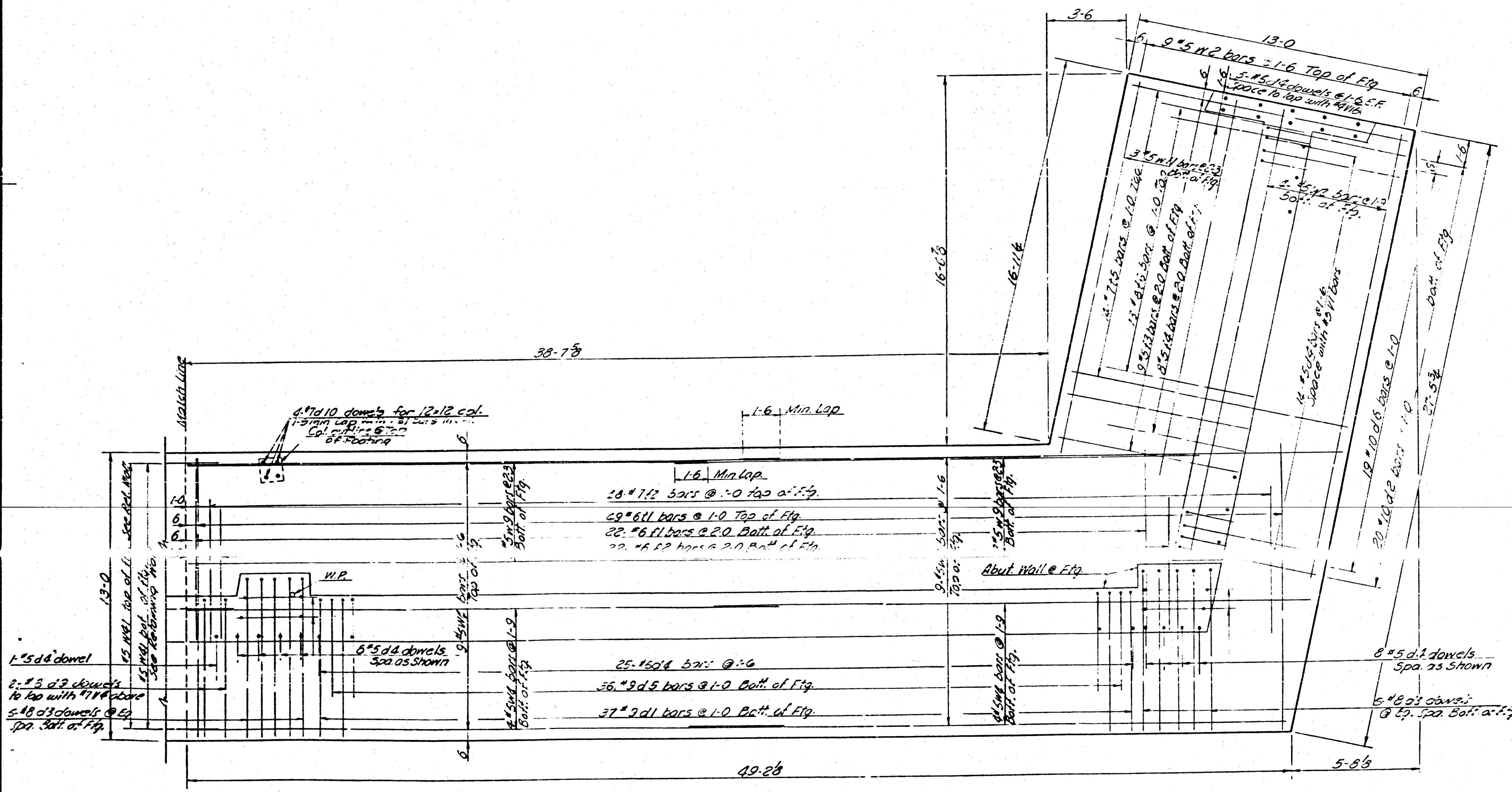
WEST ABUTMENT LEFT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	CEB	WES	J.T. LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	40
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



SECTION H2-H2
For Location See Sh. 40



FOOTING PLAN SHOWING REINFORCING

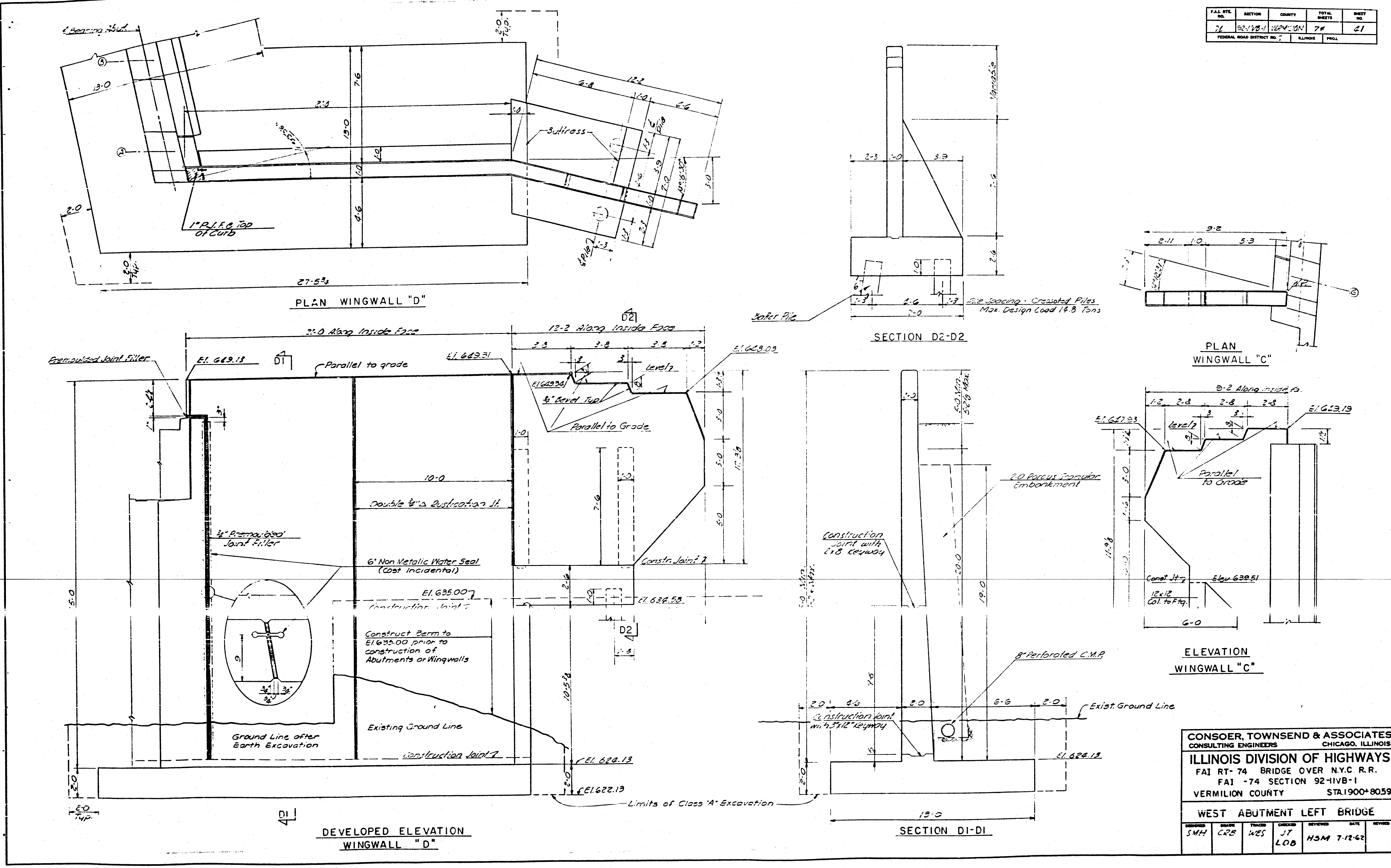
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT.-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-11VB-1
VERMILION COUNTY STA. 1900+00.59

WEST ABUTMENT LEFT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	CRB	WES	J.T. LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-IVB-1	VERMILION	7[illegible]	61
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



CONSOER, TOWNSEND & ASSOCIATES
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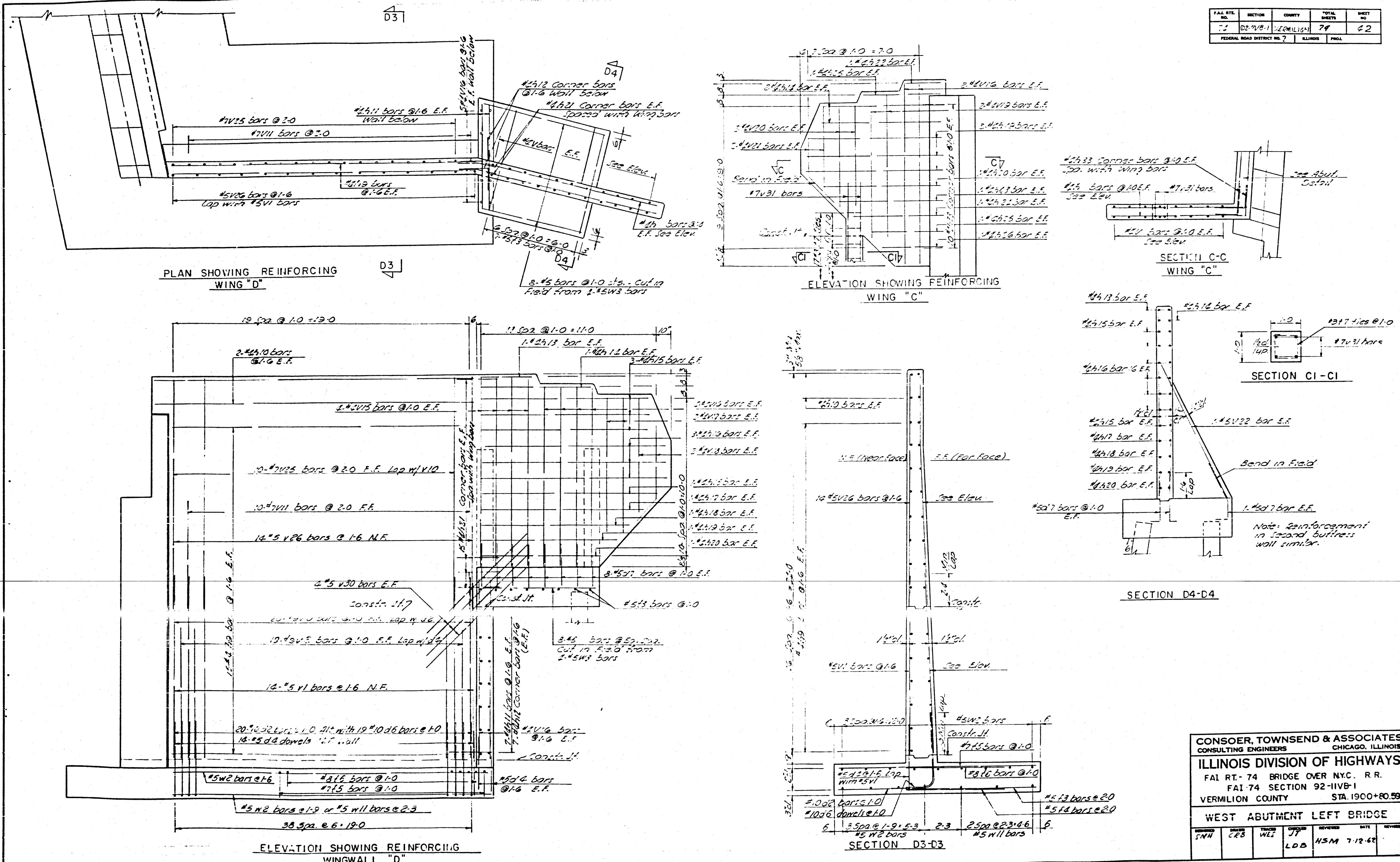
ILLINOIS DIVISION OF HIGHWAYS
FAI RT-74 BRIDGE OVER N.Y.C. R.R.
FAI -74 SECTION 92-IIVB-1
VERMILION COUNTY STA.1900+80.59

WEST ABUTMENT LEFT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	CZB	WES	JT LDB	HSM	7-12-62	



F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-IIVB-1	VERMILION	79	62
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	

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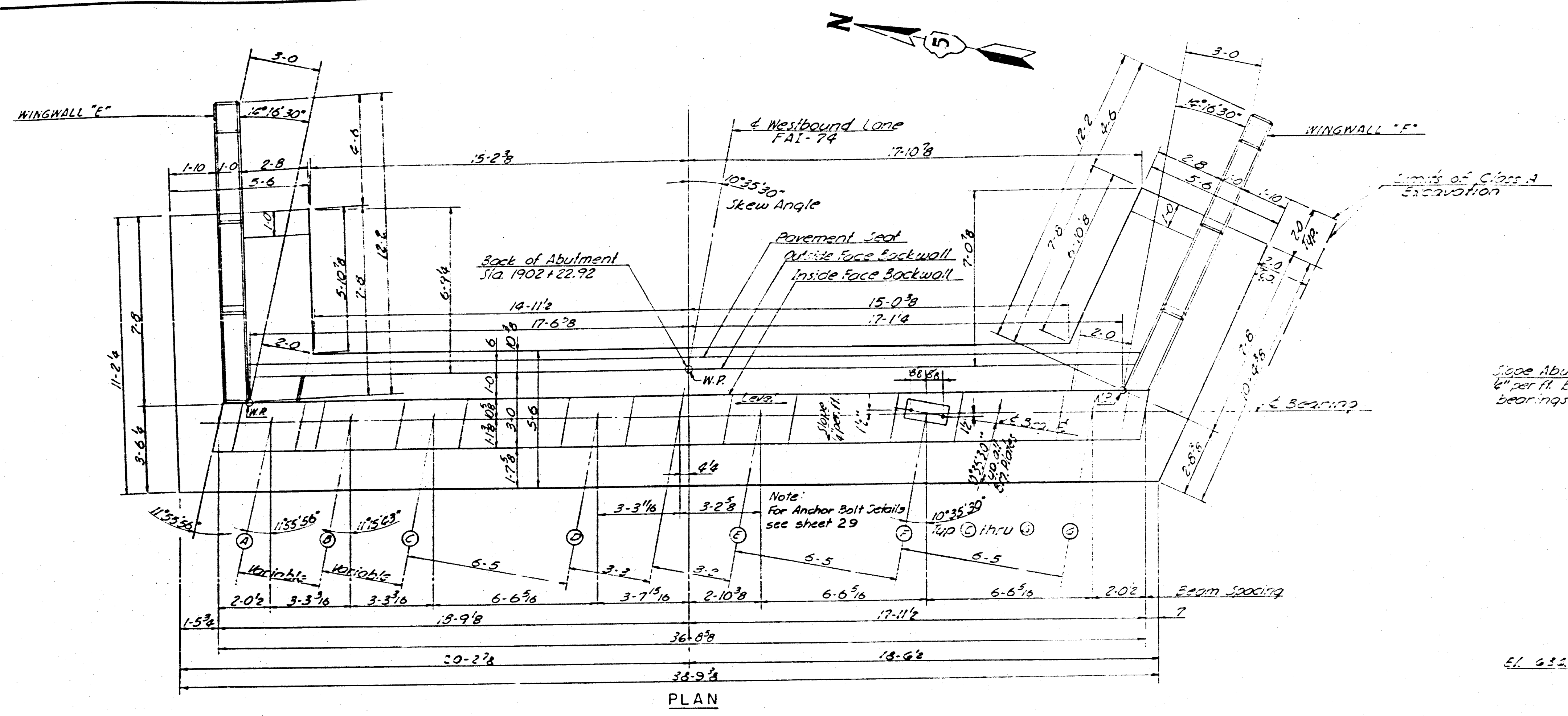
ILLINOIS DIVISION OF HIGHWAYS

FAI RT.- 74 BRIDGE OVER N.Y.C. R.R.
FAI 74 SECTION 92-IIVB-1
VERMILION COUNTY — STA. 1900+80.59

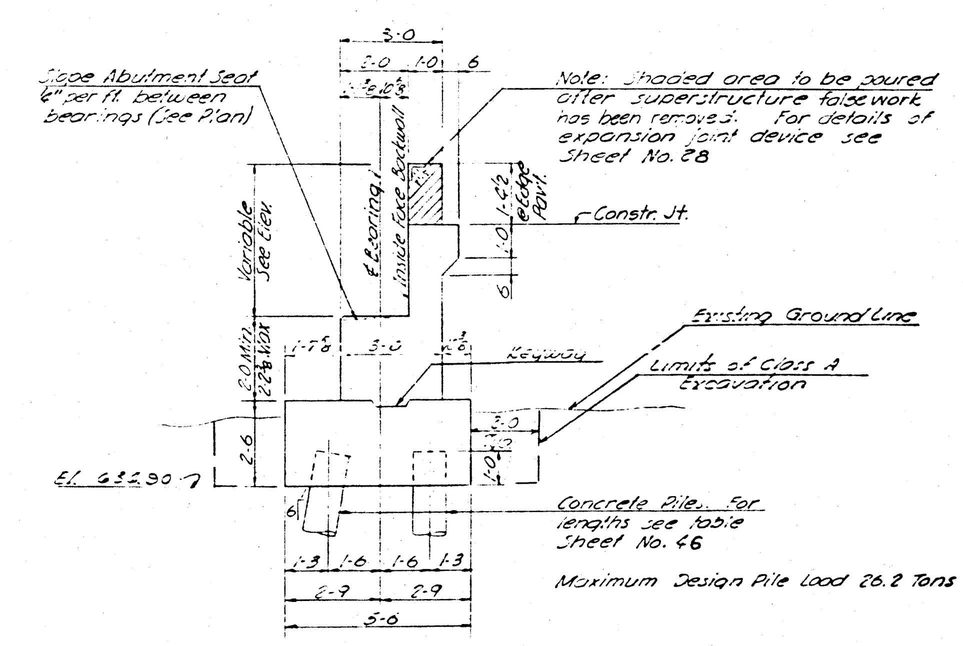
WEST ABUTMENT LEFT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SNH	CRS	WEL	JT LDB	HSM	7-12-62	

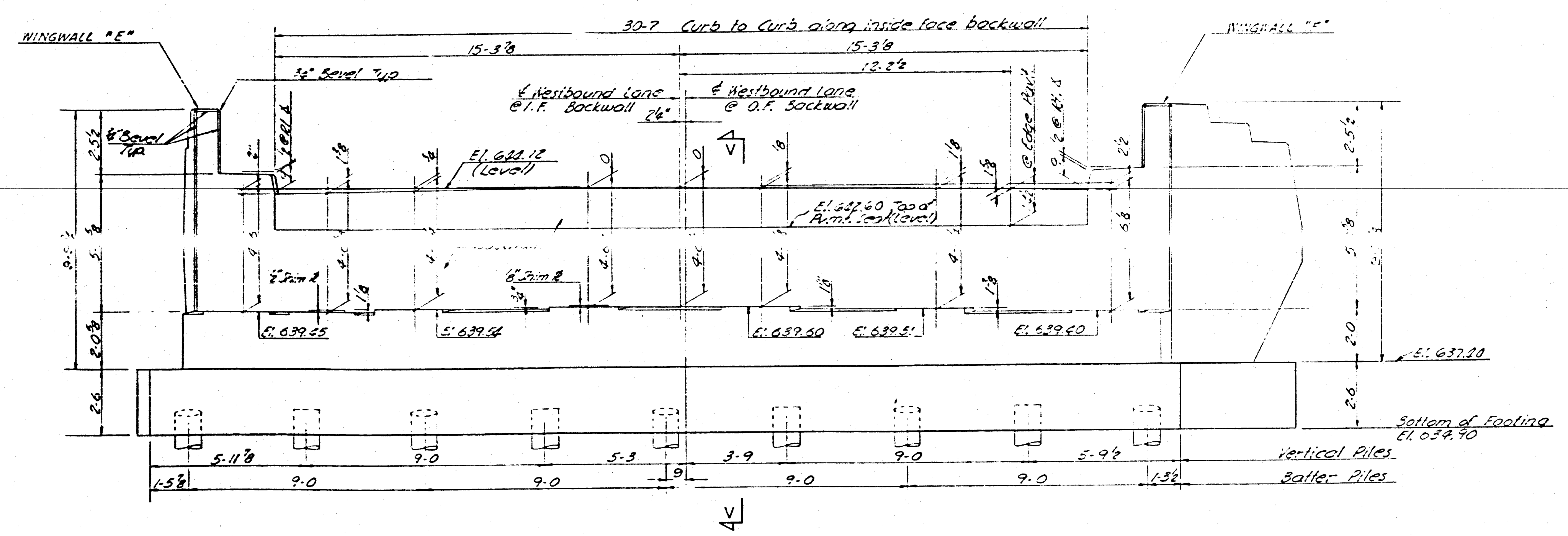
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	43
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



PLAN



SECTION V-V



ELEVATION

CONSOER, TOWNSEND & ASSOCIATES
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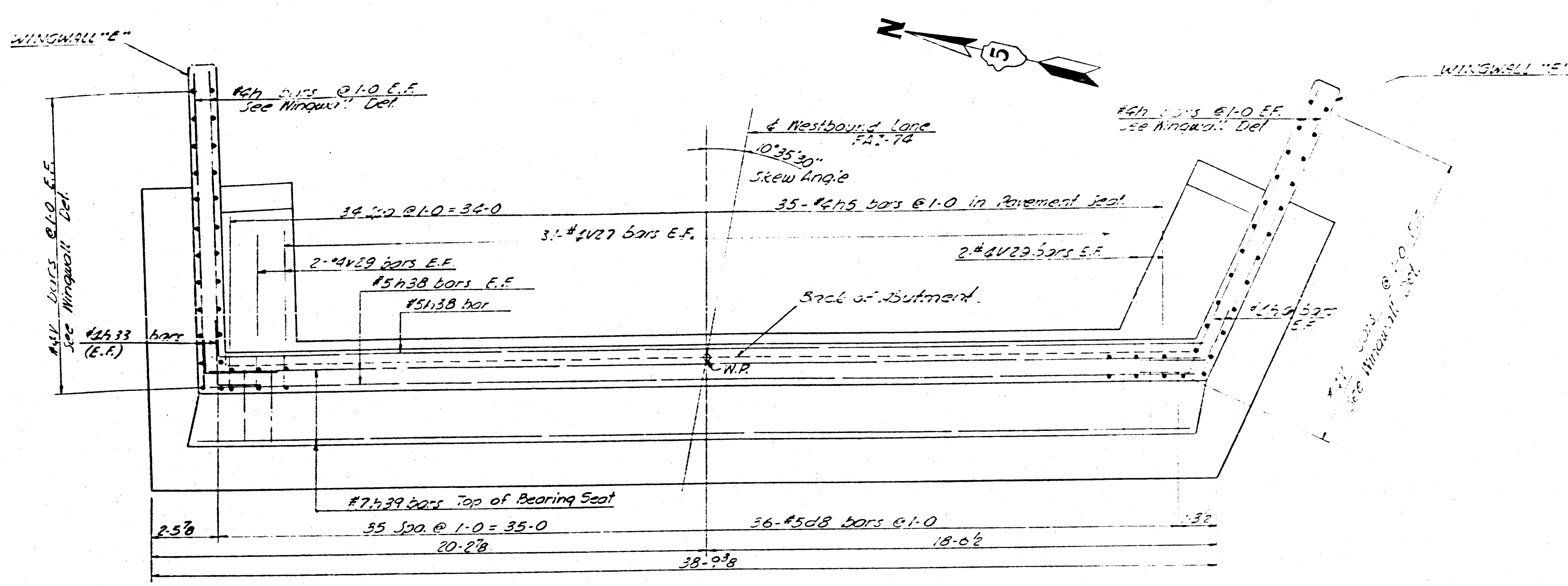
ILLINOIS DIVISION OF HIGHWAYS

FAI RT-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-11VB-1
VERMILION COUNTY STA. 1900+80.59

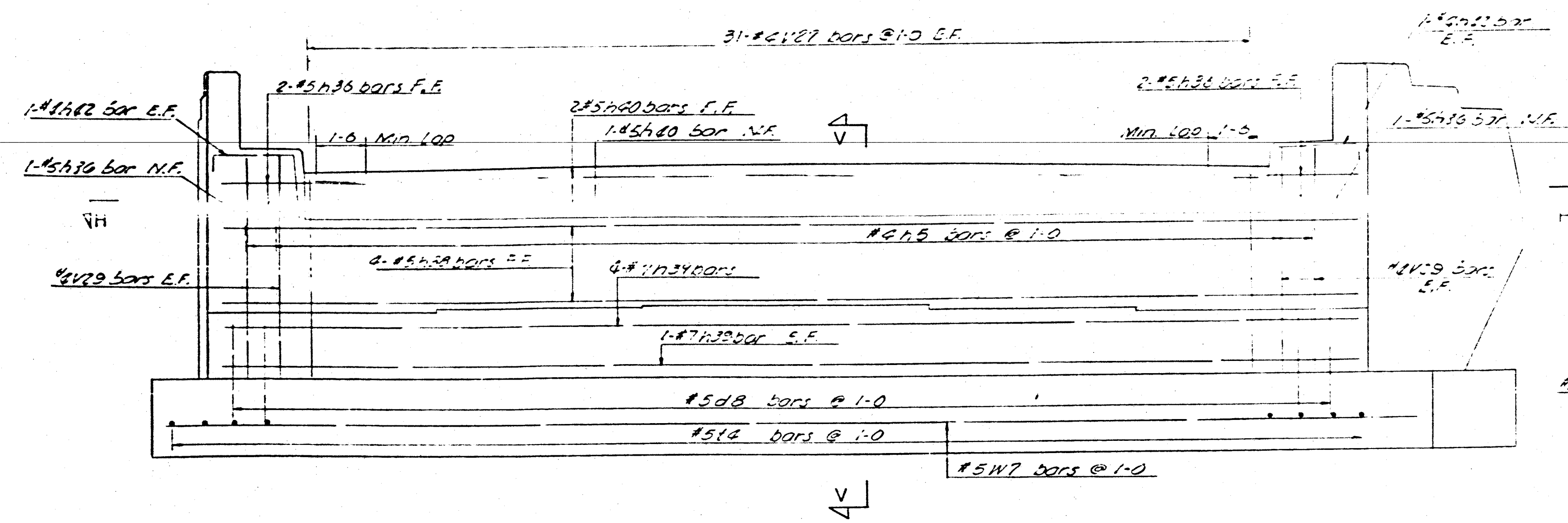
EAST ABUTMENT LEFT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLF	CRB	CRB	J.T. LDB	HSM	7-12-62	

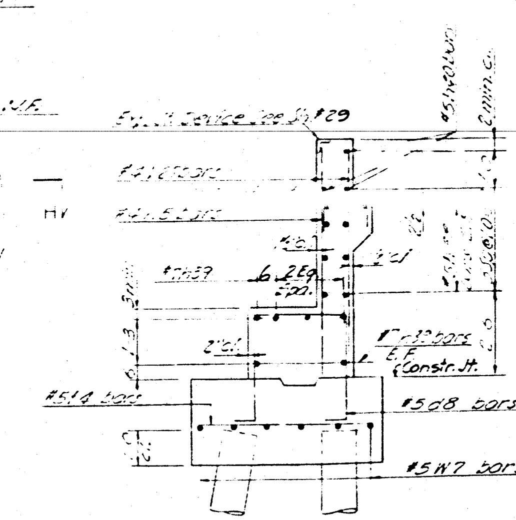
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	44
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS		



SECTION H-H



ELEVATION SHOWING REINFORCING



SECTION V-V

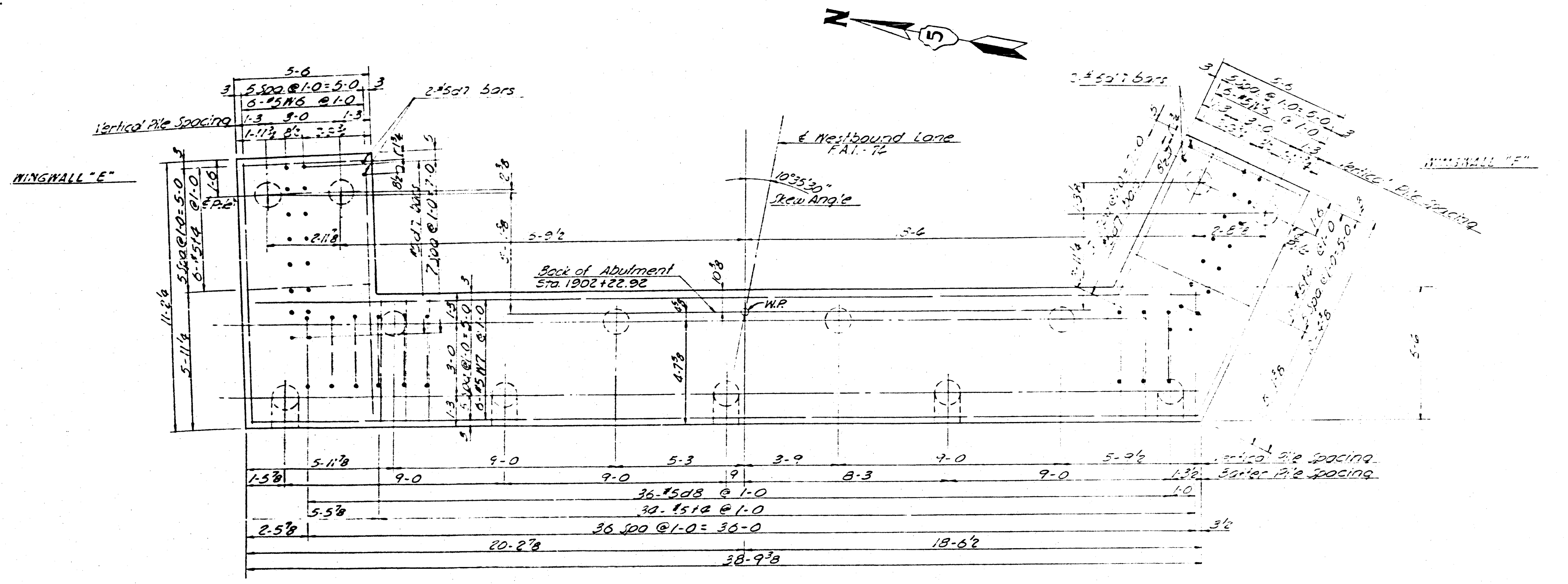
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT-74 BRIDGE OVER N.Y.C. R.R
FAI-74 SECTION 92-11VB-1
VERMILION COUNTY STA.1900+80.59

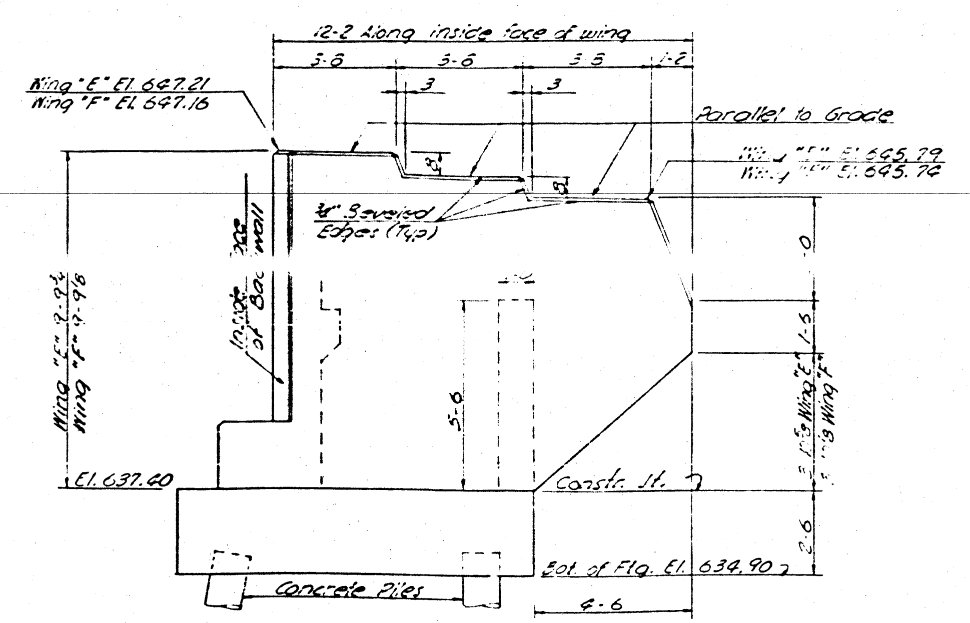
EAST ABUTMENT LEFT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLF	CRB	CRB	LDB	HSM	7-12-62	

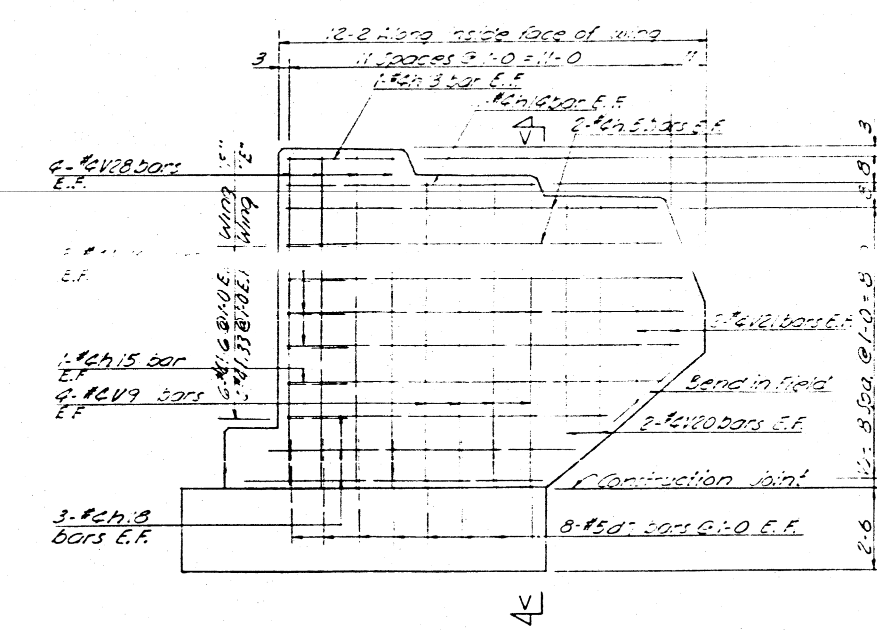
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	45
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



FOOTING PLAN SHOWING REINFORCING

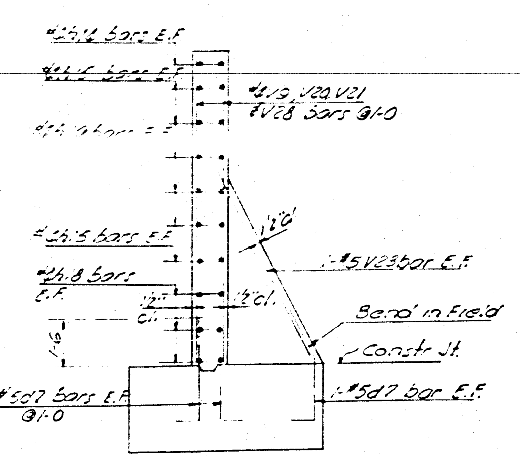


WINGWALL ELEVATION



WINGWALL REINFORCING, WINGS E & F

(See Footing Plan this sheet for footing reinforcing)



SECTION V-V

Typical Wingwalls E & F

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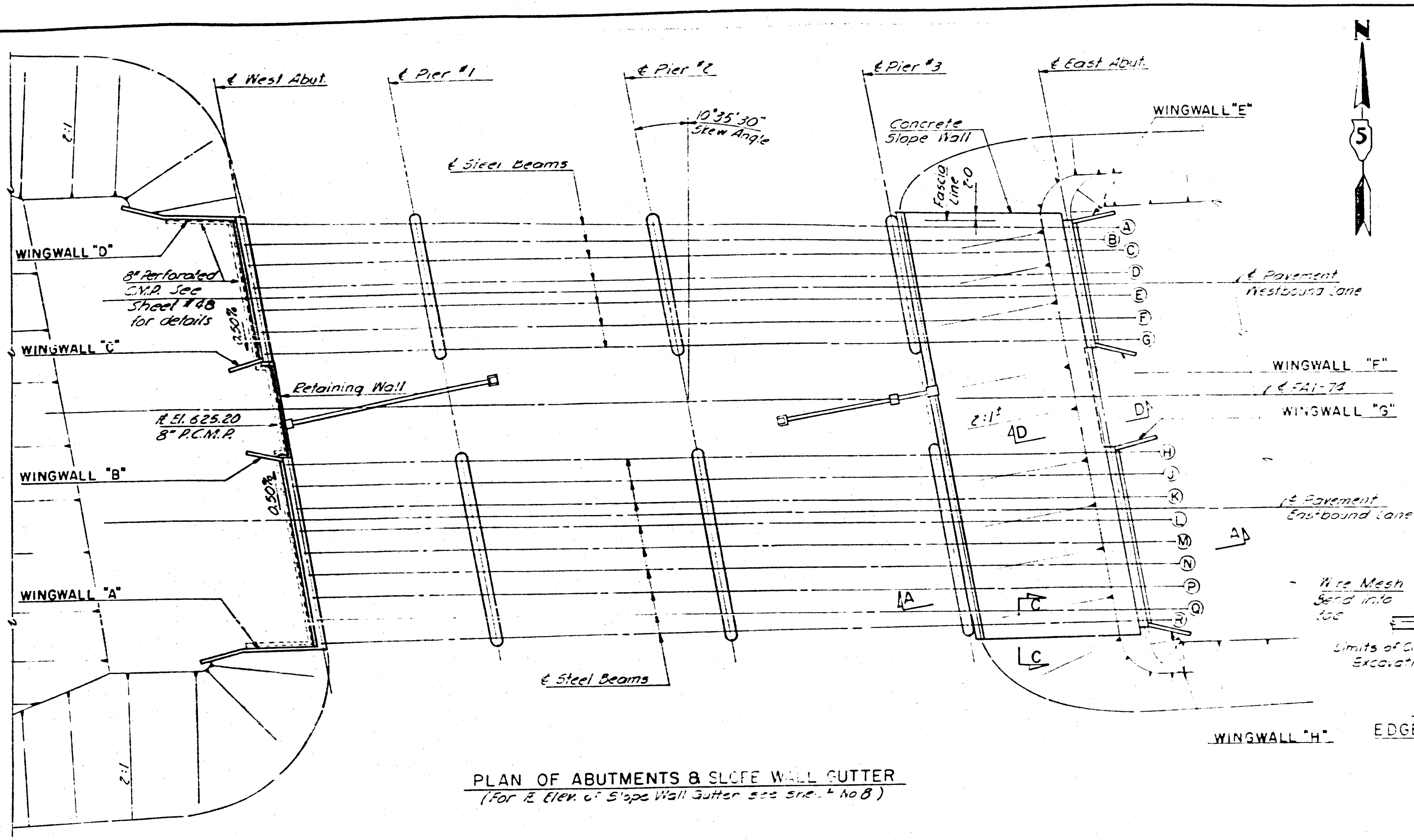
ILLINOIS DIVISION OF HIGHWAYS
FAI RT-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-11VB-1
VERMILION COUNTY STA. 1900+80.59

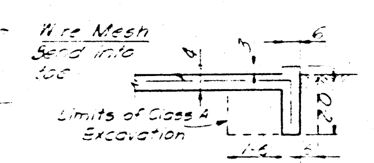
EAST ABUTMENT LEFT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLF	CRB	CRB	JT LDB	HSM	7-12-62	

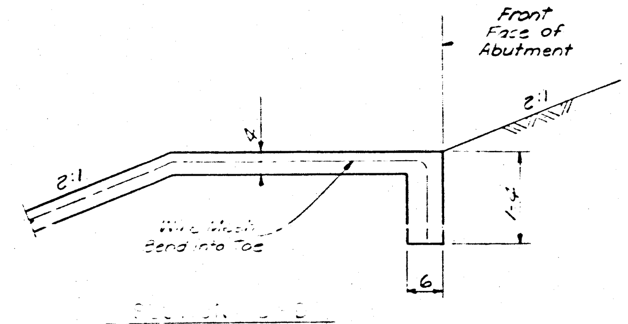
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	66
FEDERAL ROAD DISTRICT NO. 7	ILLINOIS	PROJ.		

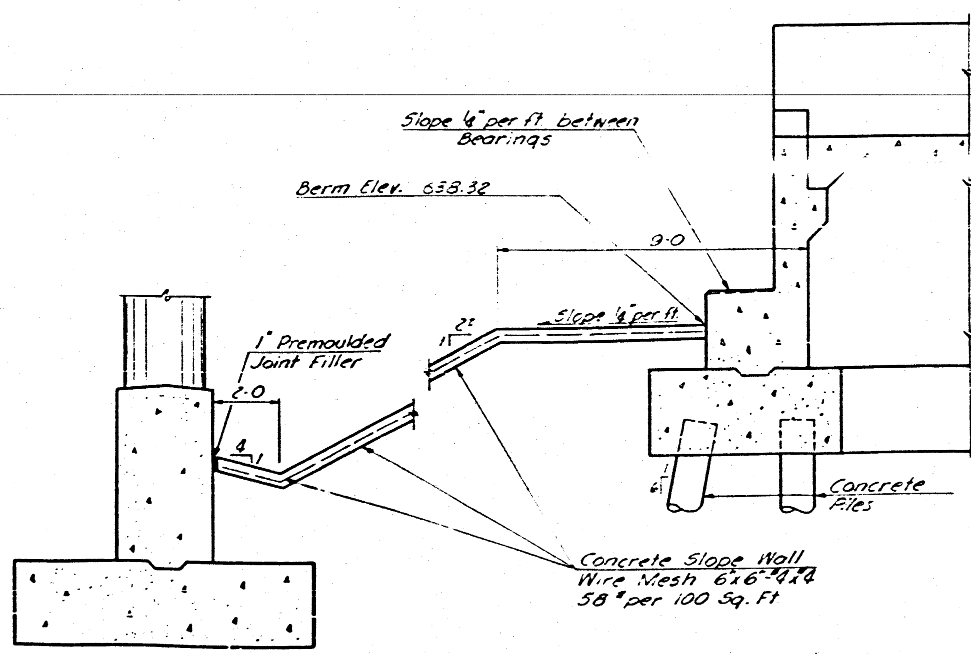


PLAN OF ABUTMENTS & SLOPE WALL GUTTER
(For ℄ Elev. of Slope Wall Gutter see Sheet No 8)



SECTION C-C
EDGE OF SLOPE WALL





SECTION A-A

ESTIMATED LENGTHS & QUANTITIES OF PILES		
Location	Concrete Piles	Timber Piles
West Abut. Rt. Bridge		2 @ 15 = 30 Lin. Ft
West Abut. Lt. Bridge		2 @ 22 = 44 Lin. Ft
East Abut. Rt Bridge	14 @ 14 = 196 Lin. Ft.	
East Abut. Lt. Bridge	13 @ 14 = 182 Lin. Ft.	
Total	378 Lin. Ft.	74 Lin. Ft.
One Concrete Test Pile, East Abut. Right Bridge		

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ILLINOIS DIVISION OF HIGHWAYS

FAI RT.-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-11VB-1
VERMILION COUNTY STA.1900+80.59

ABUTMENTS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLF	RLF	KLJ	JT LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
74	92-IIVB-I	VERMILION	74	47
FEDERAL ROAD DISTRICT NO.		ILLINOIS	PROJ.	

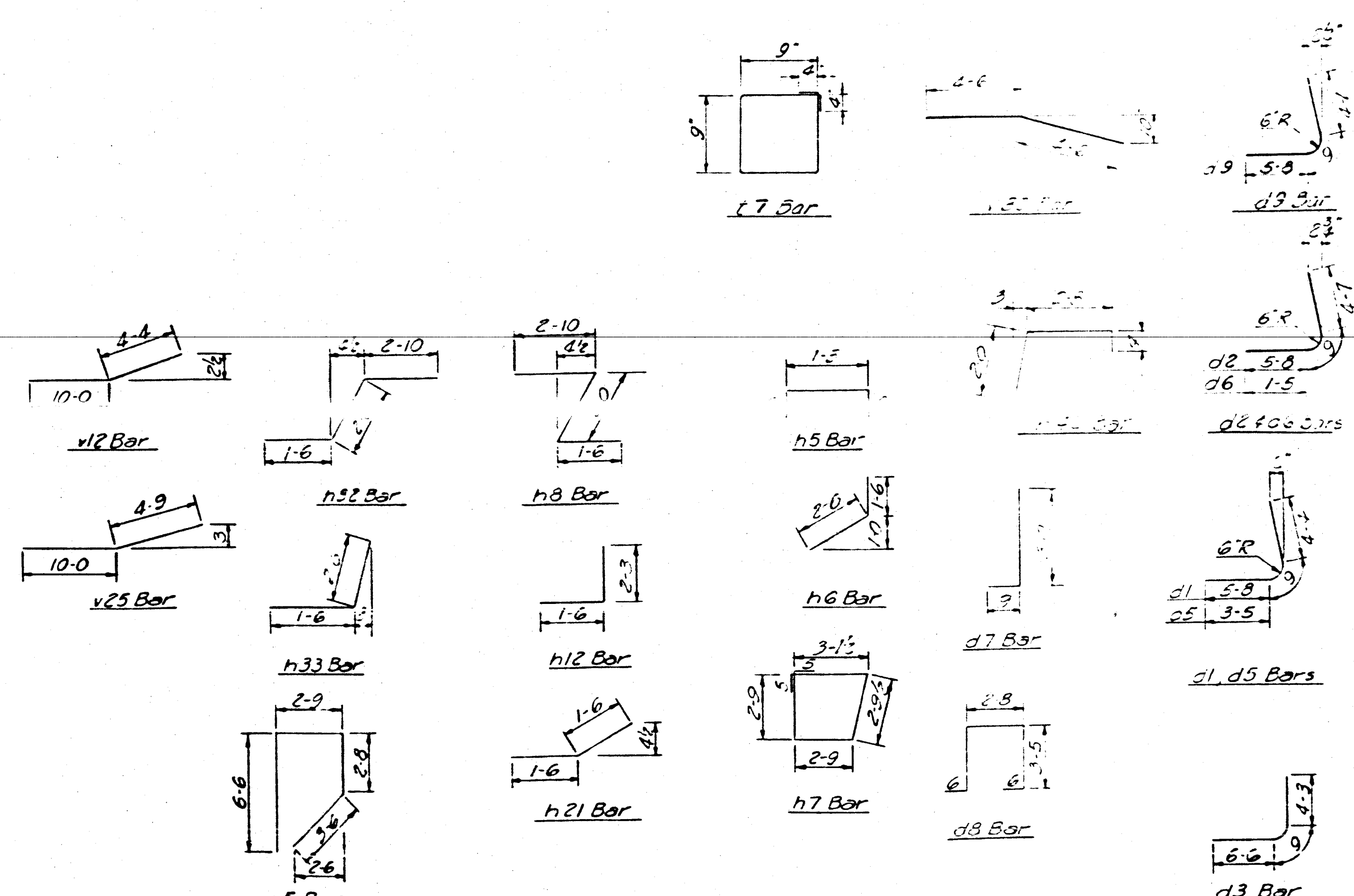
BAR SCHEDULE

Bar	No	Size	Length	Spacing	Shape
d1	58	9	10-9	1-0	
d2	40	10	11-0	1-0	
d3	20	8	11-6	Eq. Spa.	
d4	140	5	4-0	As Shown	
d5	36	9	8-6	1-0	
d6	38	10	6-9	1-0	
d7	112	5	3-9	As Shown	
d8	55	5	10-6	1-0	
d9	4	5	10-6	As Shown	
d10	3	7	3-9	As Shown	
f1	50	6	8-3	2-0	
f2	50	6	6-3	2-0	
f3	17	5	8-3	2-0	
f4	16	5	6-3	2-0	
h1	[illegible]	5	29-3	1-6	
h2	20	5	31-3	1-6	
h3	3	7	29-6	As Shown	
h4	2	5	27-3	As Shown	
h5	176	4	2-3	1-0	
h6	44	4	4-0	1-0	
h7	44	5	12-3	1-6	
h8	[illegible]	4	6-4	1-6	
h9	53	4	19-9	1-6	
h10	8	4	20-9	1-6	
h11	26	4	6-8	1-6	
h12	26	4	3-9	1-6	
h13	12	4	3-4	As Shown	
h14	30	4	7-0	As Shown	
h15	20	4	10-9	As Shown	
h16	36	4	11-9	1-0	
h17	4	4	10-3	As Shown	
h18	28	4	9-3	As Shown	
h19	16	4	8-3	As Shown	
h20	8	4	7-3	As Shown	
h21	[illegible]	4	3-0	As Shown	
h22	4	4	2-0	As Shown	
h23	12	5	6-3	As Shown	
h24	4	4	5-3	As Shown	
h25	5	4	4-3	As Shown	
h26	4	4	3-3	As Shown	
h27	3	5	43-0	1-6	
h28	20	5	45-0	1-6	
h29	6	5	25-9	As Shown	
h30	3	5	36-0	As Shown	
h31	1	5	39-0	As Shown	
h32	10	4	6-4	1-6	
h33	42	4	4-0	1-0	
h34	16	5	27-0	As Shown	
h35	12	7	27-3	Equal Spa	
h36	12	5	5-0	As Shown	
h37	3	5	24-0	As Shown	
h38	3	5	35-10	As Shown	
h40	3	5	30-3	As Shown	
h41	4	7	43-0	As Shown	
h42	16	4	5-0	As Shown	
h43	4	4	6-3	As Shown	

Bar	No	Size	Length	Spacing	Shape
t1	113	6	12-6	1-0	
t2	111	7	6-0	1-0	
t3	14	5	6-6	1-0	
t4	108	5	5-0	1-0	
t5	29	7	12-6	1-0	
t6	28	3	6-0	1-0	
t7	34	3	3-3	1-0	
v1	120	5	11-6	As Shown	
v2	124	9	7-6	1-0	
v3	88	9	14-0	1-0	
v4	24	7	11-6	As Shown	
v5	88	5	15-5	1-0	
v6	17	5	6-9	Equal Spa	
v7	12	6	6-3	As Shown	
v8	196	4	7-3	1-0	
v9	53	4	8-9	As Shown	
v10	40	9	1-10	1-0	
v11	20	7	7-0	2-0	
v12	10	7	14-4	2-0	
v13	14	5	14-4	1-6	
v14	10	4	11-0	1-6	
v15	16	4	12-2	1-0	
v16	34	4	11-6	1-0	
v17	8	4	8-6	1-0	
v18	8	4	7-0	1-0	
v19	8	4	9-0	1-0	
v20	24	4	6-6	1-0	
v21	24	4	5-6	1-0	
v22	8	5	9-6	As Shown	
v23	25	5	7-0	Equal Spa	
v24	12	6	7-0	Equal Spa	
v25	10	7	14-9	2-0	
v26	14	5	14-8	1-6	
v27	156	4	6-3	1-0	
v28	32	4	9-6	1-0	
v29	16	4	7-0	1-0	
v30	16	5	9-0	0-6	
v31	8	7	18-0	As Shown	
w1	26	5	33-0	As Shown	
w2	26	5	20-6	As Shown	
w3	8	5	14-3	1-0	
w4	36	5	26-6	As Shown	
w5	12	5	28-0	1-0	
w6	24	5	10-0	1-0	
w7	6	5	38-3	1-0	
w8	6	5	28-6	2-3	
w9	6	5	23-6	2-3	
w10	3	5	15-0	2-3	
w11	3	5	17-0	2-3	

ABUTMENT QUANTITIES

ITEM	WEST ABUTMENT Right	WEST ABUTMENT Left	RETAINING WALL ℄	EAST ABUTMENT Right	EAST ABUTMENT Left
Class "X" Concrete	211.4 cu.yds.	179.5 cu.yds.	See Sh. #48	65.8 cu.yds.	49.5 cu.yds.
Reinforcement Bars	22,930 Lbs.	19,120 Lbs.	See Sh. #48	3960 Lbs.	3000 Lbs.
Class "A" Excavation	316 cu.yds.	233 cu.yds.	72 cu.yds.	48 cu.yds.	24 cu.yds.
Slope Wall	———	———	———	391 sq.yds.	305 sq.yds.
Porous Granular Embankment	80 cu.yds.	68 cu.yds.	35 cu.yds.	———	———
Perforated Corrugated Metal Pipe 8"	78 lin.ft.	64 lin.ft.	26 lin.ft.	———	———



BENDING DIAGRAMS
(All Bar dimensions are Out to Out)

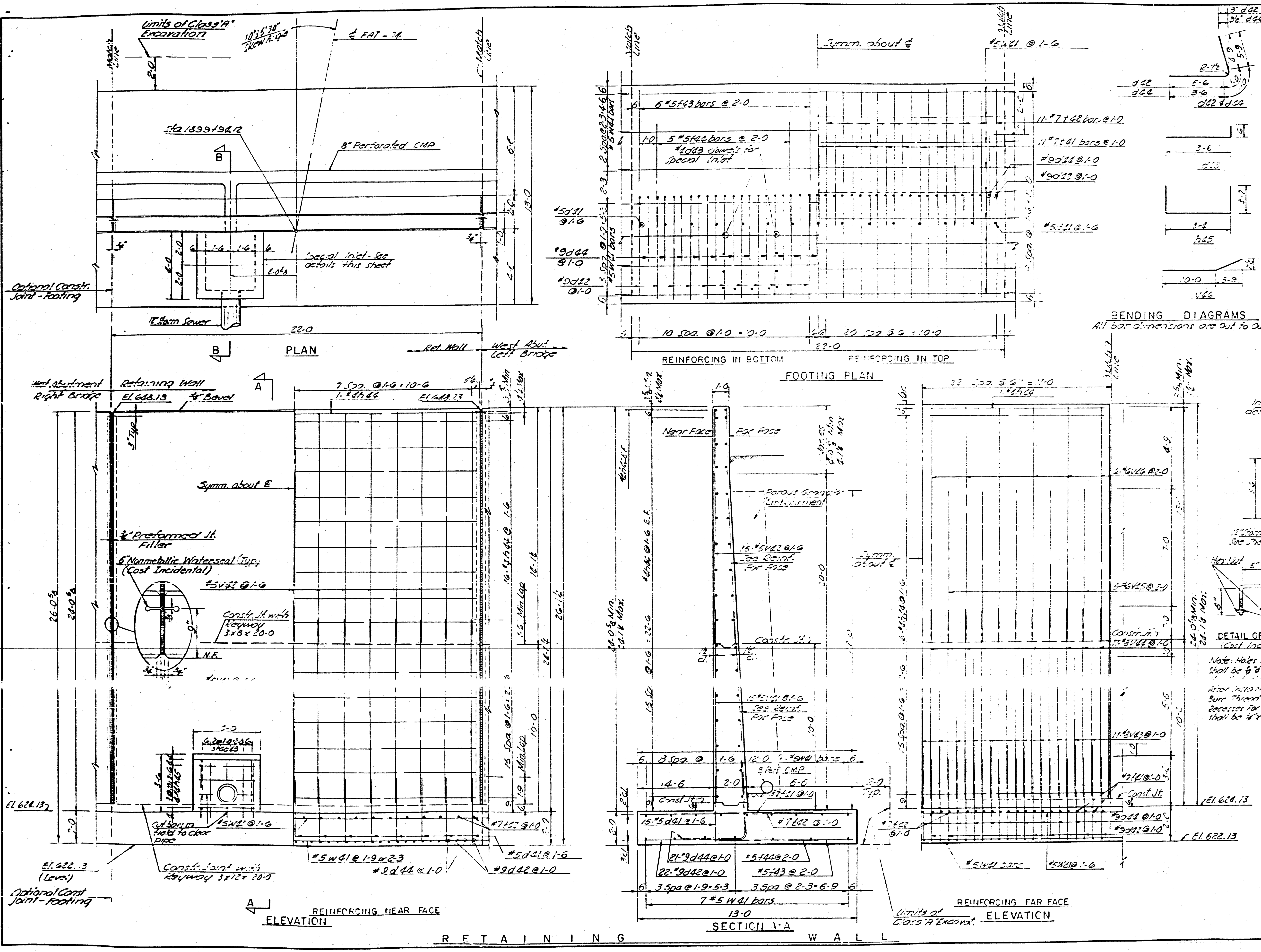
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS — CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT.-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-IIVBI
VERMILION COUNTY — STA. 1900 + 80.59

ABUTMENTS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	CRB	DDR	JT LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	79	48
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



BAR SCHEDULE					
Bar	No.	Size	Length	Spacing	Shape
d41	15	5	4-0	1-6	—
d42	22	9	11-3	1-0	⌋
d43	11	4	4-0	1-0	⌋
d44	21	9	10-3	1-0	⌋
f43	12	5	6-3	2-0	—
f44	10	5	6-3	2-0	—
t41	21	7	6-0	1-0	—
t42	22	7	12-6	1-0	—
h44	34	4	21-3	1-6	—
h45	4	4	10-6	0-10	⊔
h46	6	4	3-9	0-6	—
h47	8	4	1-9	1-0	—
V41	15	5	11-0	1-6	—
V42	15	5	13-3	1-6	—
V43	21	8	8-6	1-0	—
V44	22	8	[illegible]	1-0	—
V45	10	6	9-0	2-0	—
V46	12	6	13-9	2-0	—
W41	16	5	26-0	As Shown	—

RETAINING WALL QUANTITIES	
Class "X" Concrete	49.8 Cu. Yd.
Reinforcement Bars	5560 Lbs.

Note: See Sheet #47 for Miscellaneous Quantities

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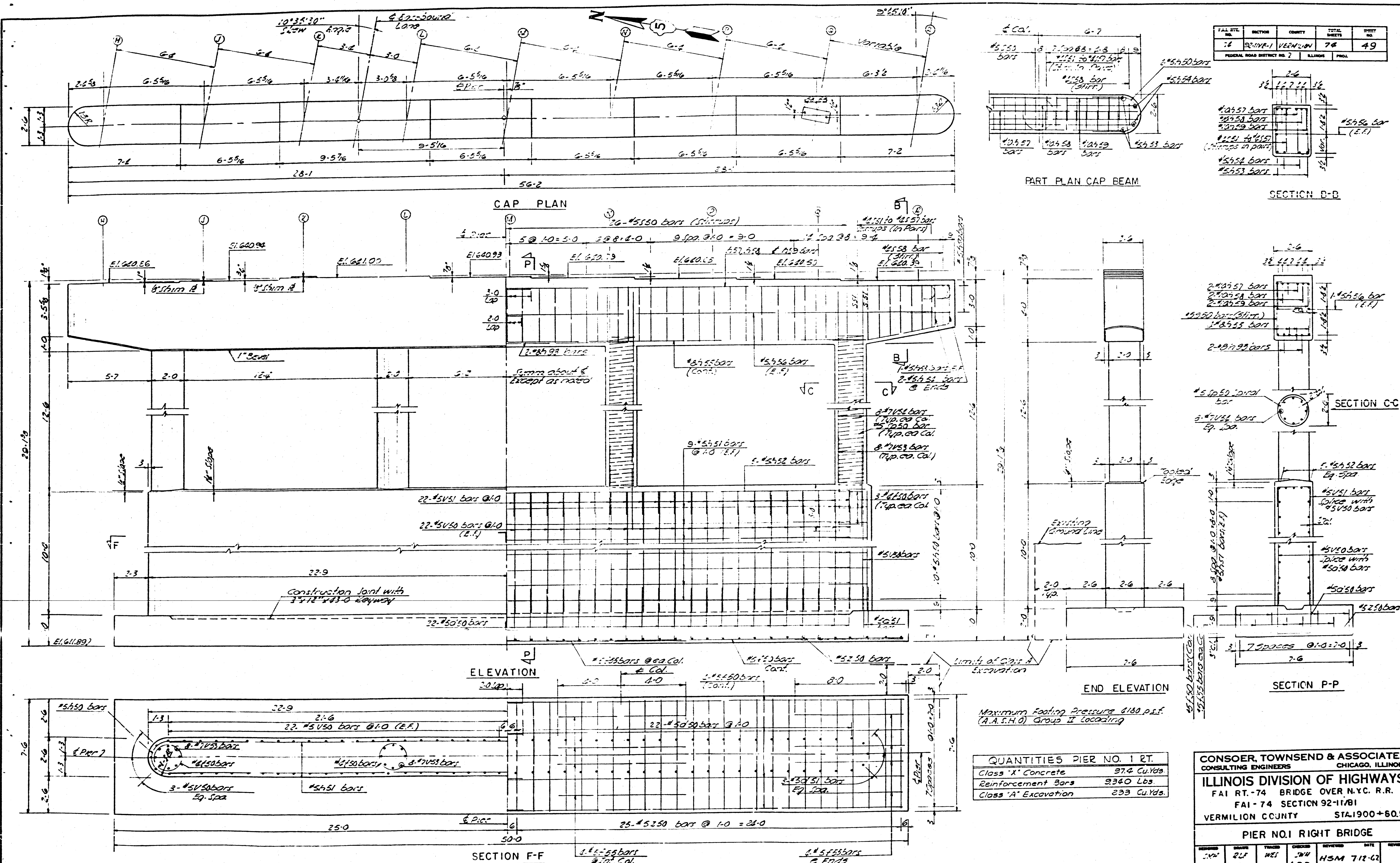
ILLINOIS DIVISION OF HIGHWAYS
F.A.I. RT.-74 BRIDGE OVER N.Y.C. R.R.
F.A.I.-74 SECTION 92-11VB-1
VERMILION COUNTY STA. 1900+80 59

RETAINING WALL

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	CRB	WES	RBS LDB	HSM	7-12-62	



F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	49
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	

Maximum Footing Pressure 6180 p.s.f. (A.A.S.H.O.) Group II Loading

QUANTITIES PIER NO. 1 RT.	
Class "X" Concrete	97.4 Cu.Yds.
Reinforcement Bars	9340 Lbs.
Class "A" Excavation	233 Cu.Yds.

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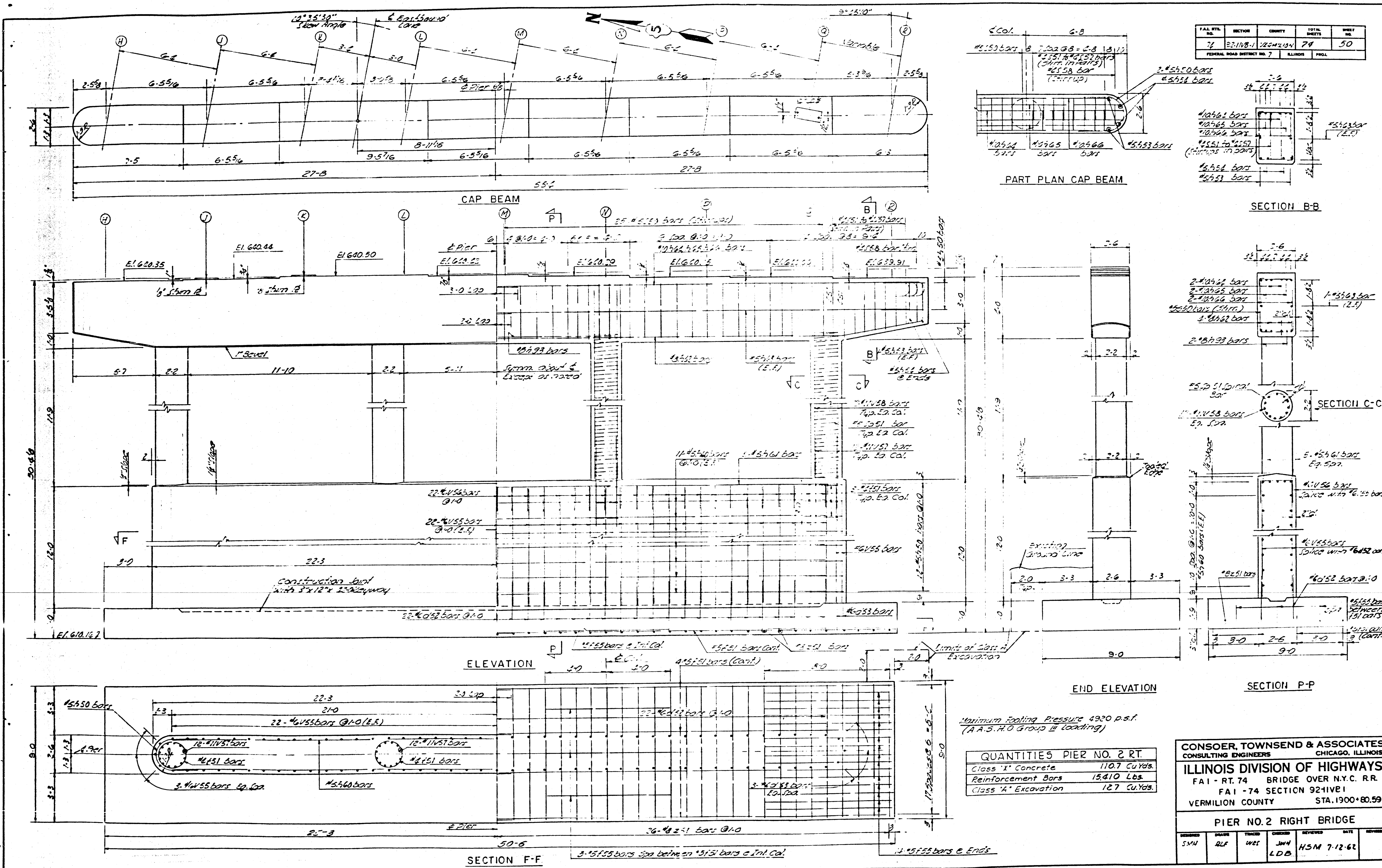
ILLINOIS DIVISION OF HIGHWAYS
FAI RT.-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-11VB1
VERMILION COUNTY STA. 1900+60.59

PIER NO. 1 RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWF	RLF	WES	JWH LDB	HSM	7-12-62	



F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-1IVB-1	VERMILION	79	50
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	

QUANTITIES PIER NO. 2 RT.	
Class "X" Concrete	110.7 Cu. Yds.
Reinforcement Bars	15,410 Lbs.
Class "A" Excavation	127 Cu. Yds.

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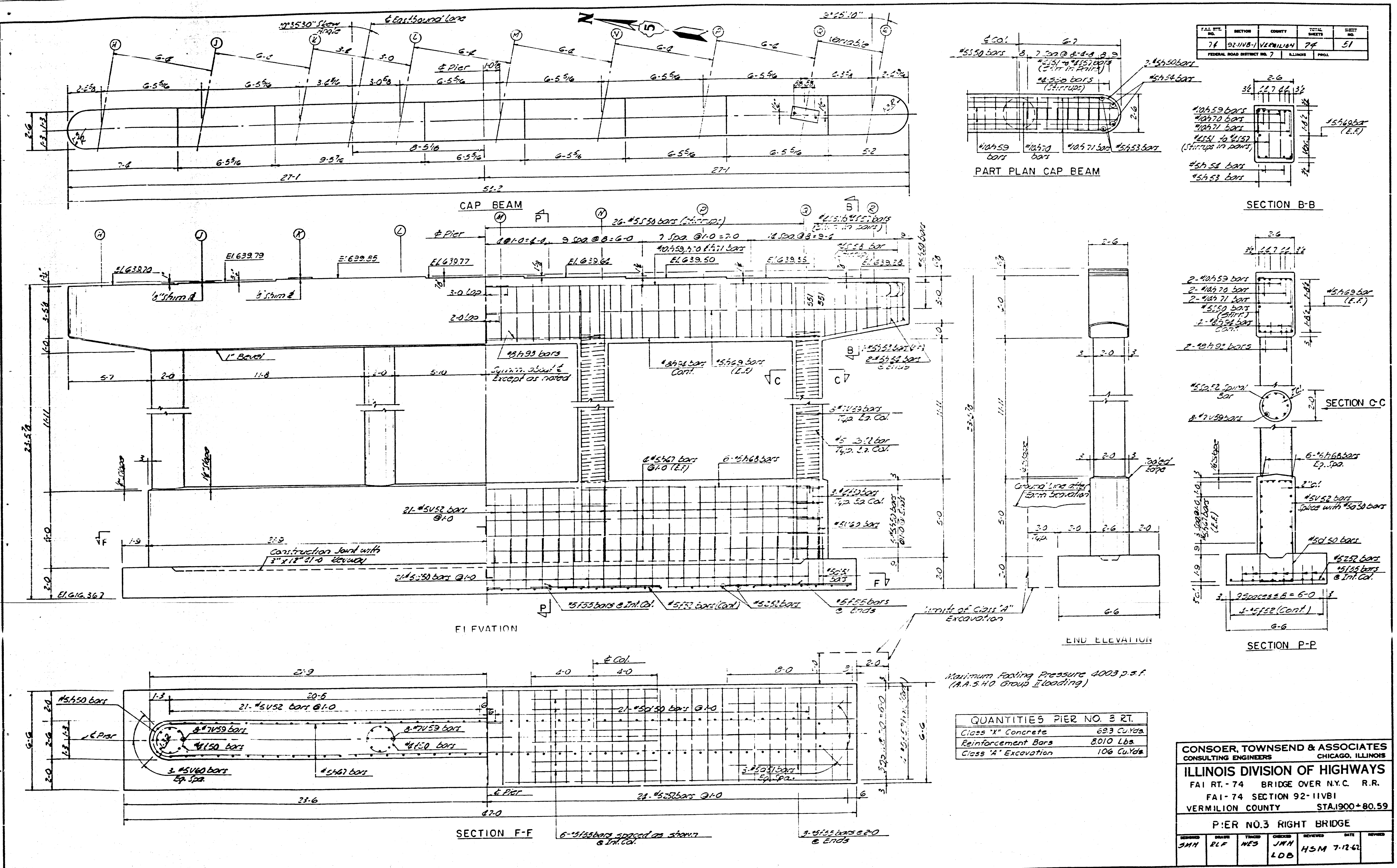
ILLINOIS DIVISION OF HIGHWAYS
FAI - RT. 74 BRIDGE OVER N.Y.C. R.R.
FAI - 74 SECTION 92-1IVB1
VERMILION COUNTY STA. 1900+80.59

PIER NO. 2 RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	RLF	WES	JHH LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	51
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



Maximum Footing Pressure 4003 p.s.f.
(A.A.S.H.O. Group II loading)

QUANTITIES PIER NO. 3 RT.	
Class "X" Concrete	69.3 Cu.Yds.
Reinforcement Bars	8,010 Lbs.
Class "A" Excavation	106 Cu.Yds.

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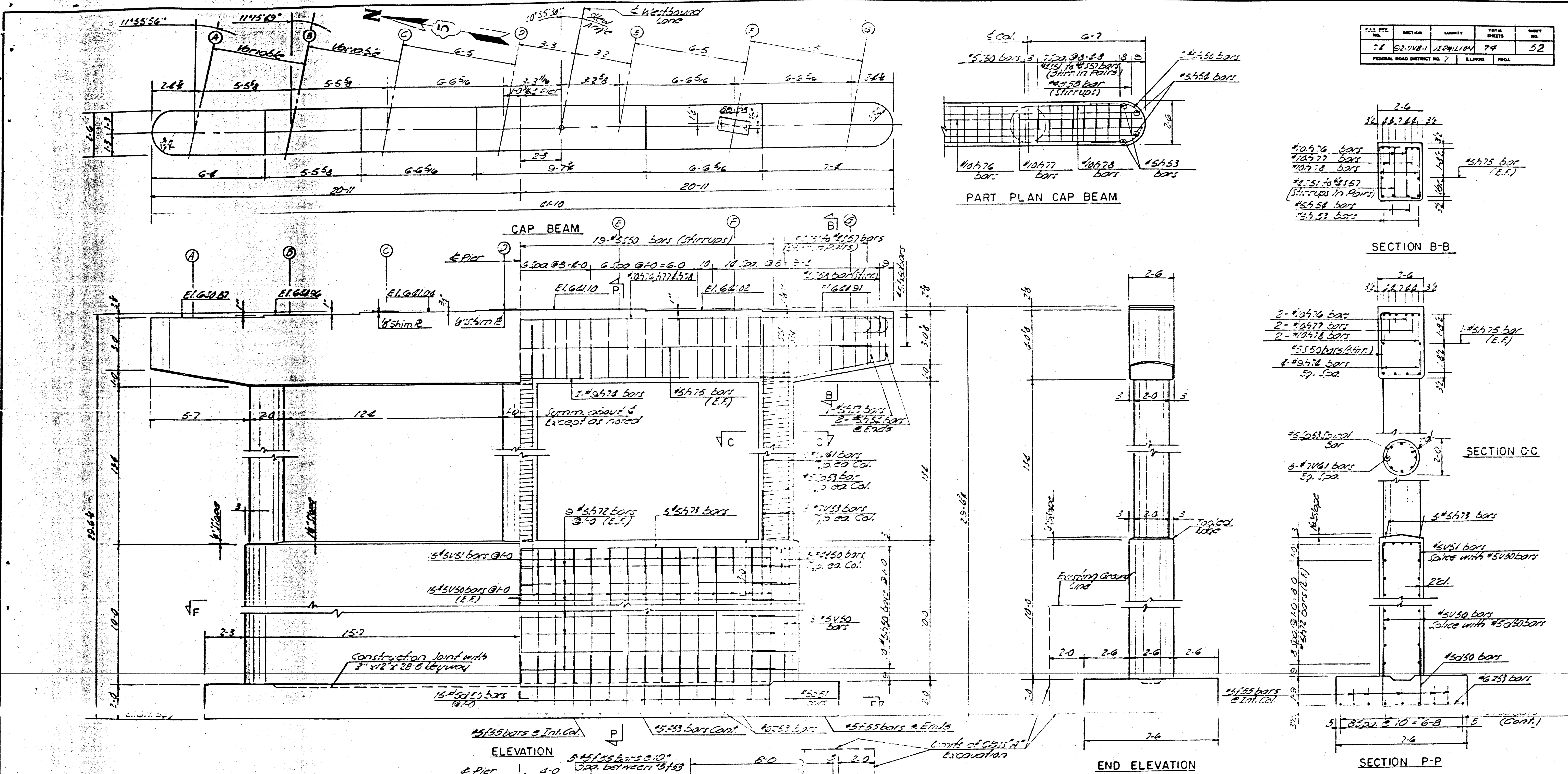
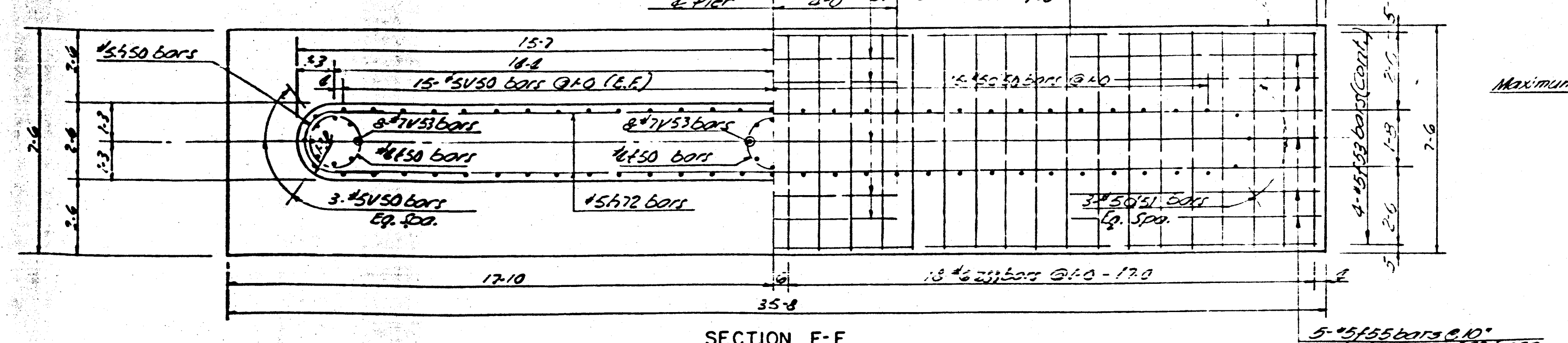
ILLINOIS DIVISION OF HIGHWAYS
FAI RT.-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-11VBI
VERMILION COUNTY STA.1900+80.59

PIER NO.3 RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	RLF	WES	JMH LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	52
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	





Maximum Footing Pressure 4600 P.S.F. (A.A.S.H.O. Group II Loading)

QUANTITIES PIER NO. 1 LT.	
Class "X" Concrete	68.8 Cu. Yds.
Reinforcement Bars	7040 Lbs.
Class "A" Excavation	176 Cu. Yds.

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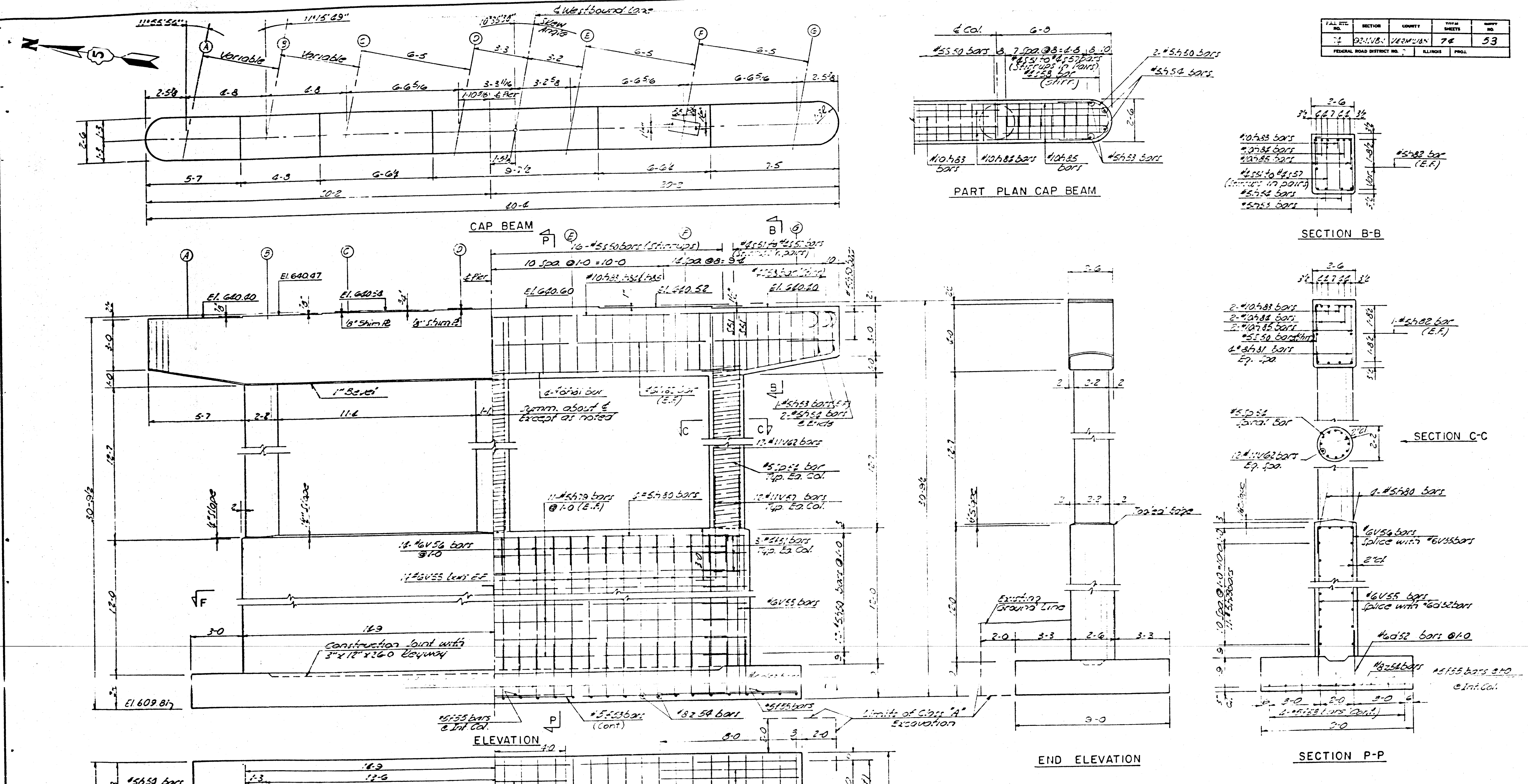
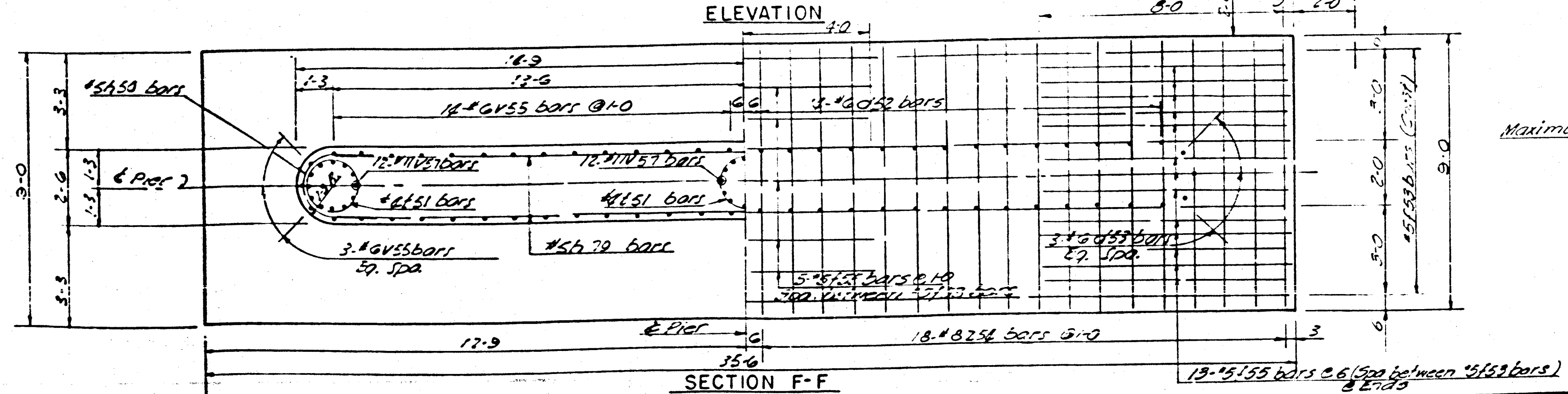
ILLINOIS DIVISION OF HIGHWAYS
FAI RT.-74 BRIDGE OVER N.Y.C. R. R.
FAI -74 SECTION 92-11VB-1
VERMILION COUNTY STA. 1900+80.59

PIER NO. 1 LEFT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	RLF	MES	JMH LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-1IVB-1	VERMILION	74	53
FEDERAL ROAD DISTRICT NO. 7	ILLINOIS	PROJ.		





Maximum Footing Pressure 5550 p.s.f. (A.A.S.H.O. Group III loading)

QUANTITIES PIER NO. 2 LT.		
Class "X" Concrete	75.7	Cu.Yds.
Reinforcement Bars	11,230	Lbs.
Class "A" Excavation	89	Cu.Yds.

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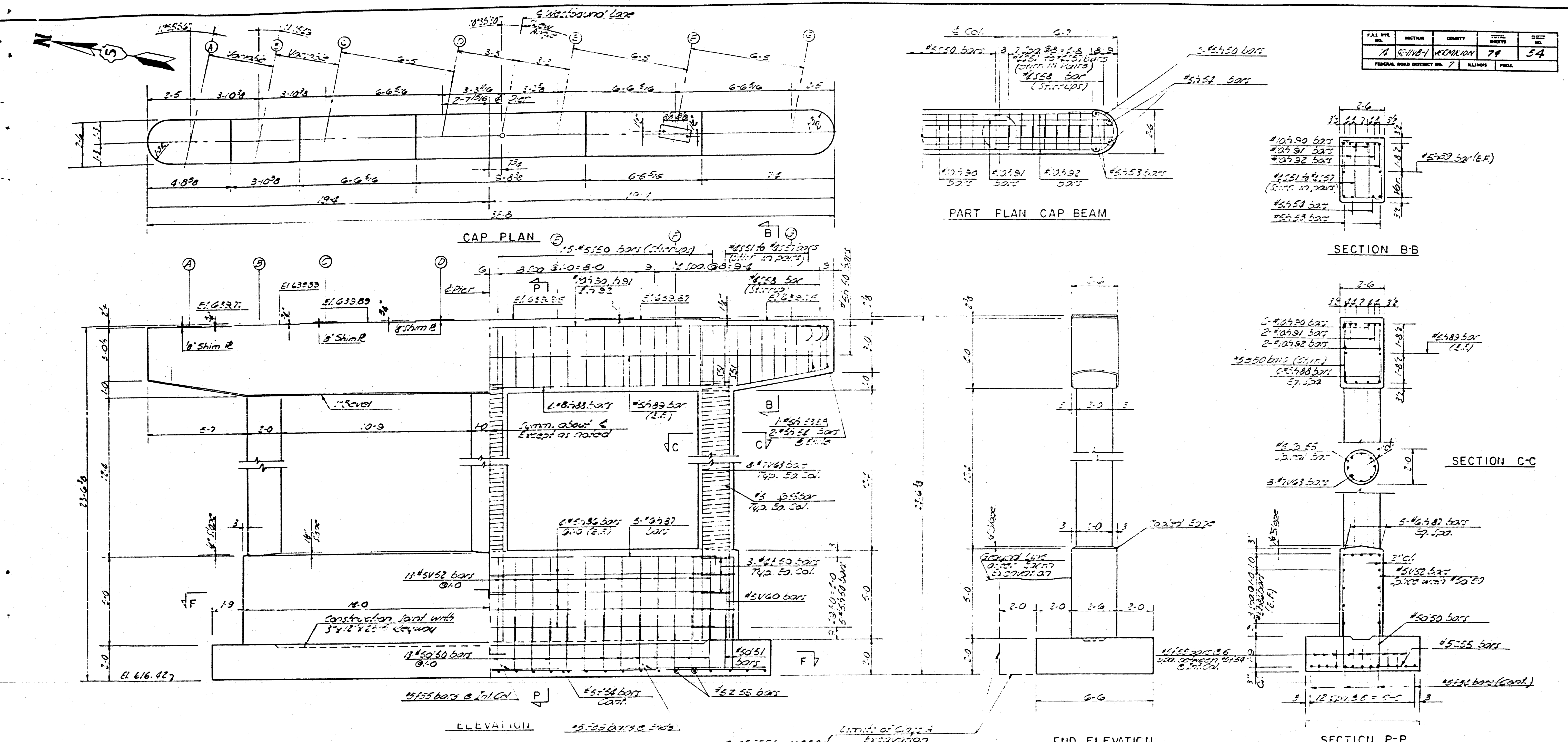
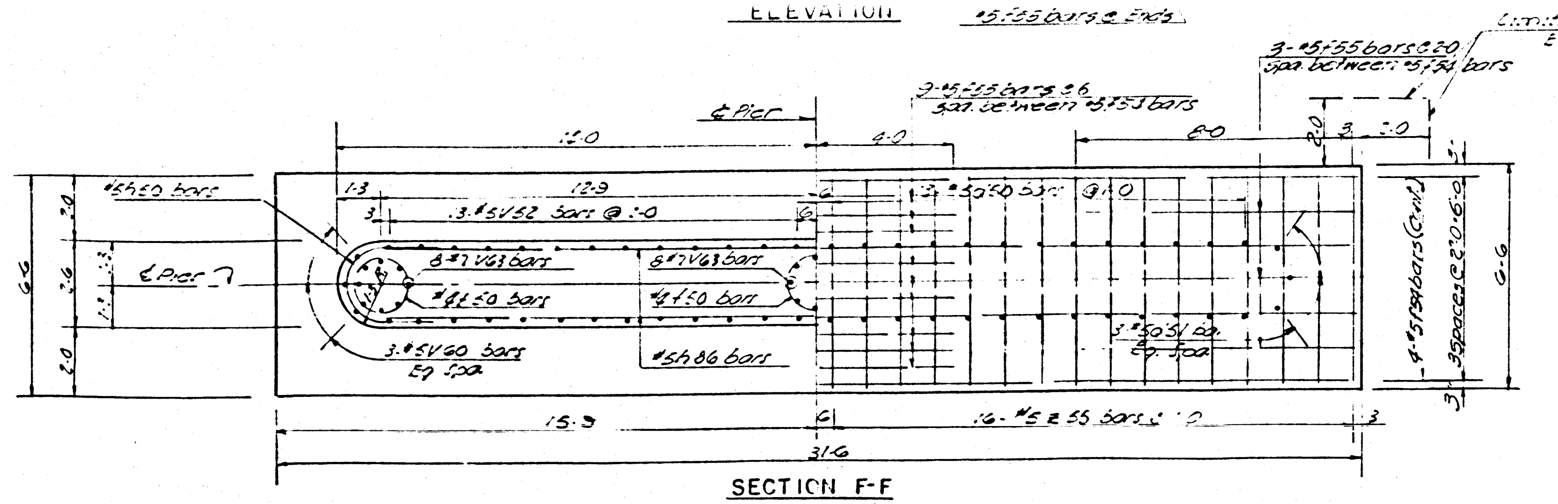
FAI RT. 74 BRIDGE OVER N.Y.C. R.R.
FAI -74 SECTION 92-IVB1
VERMILION COUNTY STA. 1900+80.59

PIER NO. 2 LEFT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DDR	RLF	WES	JWH LDB	HSM	7-12-62	





Maximum Footing Pressure 4730 p.s.f. (A.A.S.H.O. Group I loading)

QUANTITIES PIER NO. 3 LT.		
Class "X" Concrete	46.3	Cu.Yds.
Reinforcement Bars	5,560	Lbs.
Class "A" Excavation	72	Cu.Yds.

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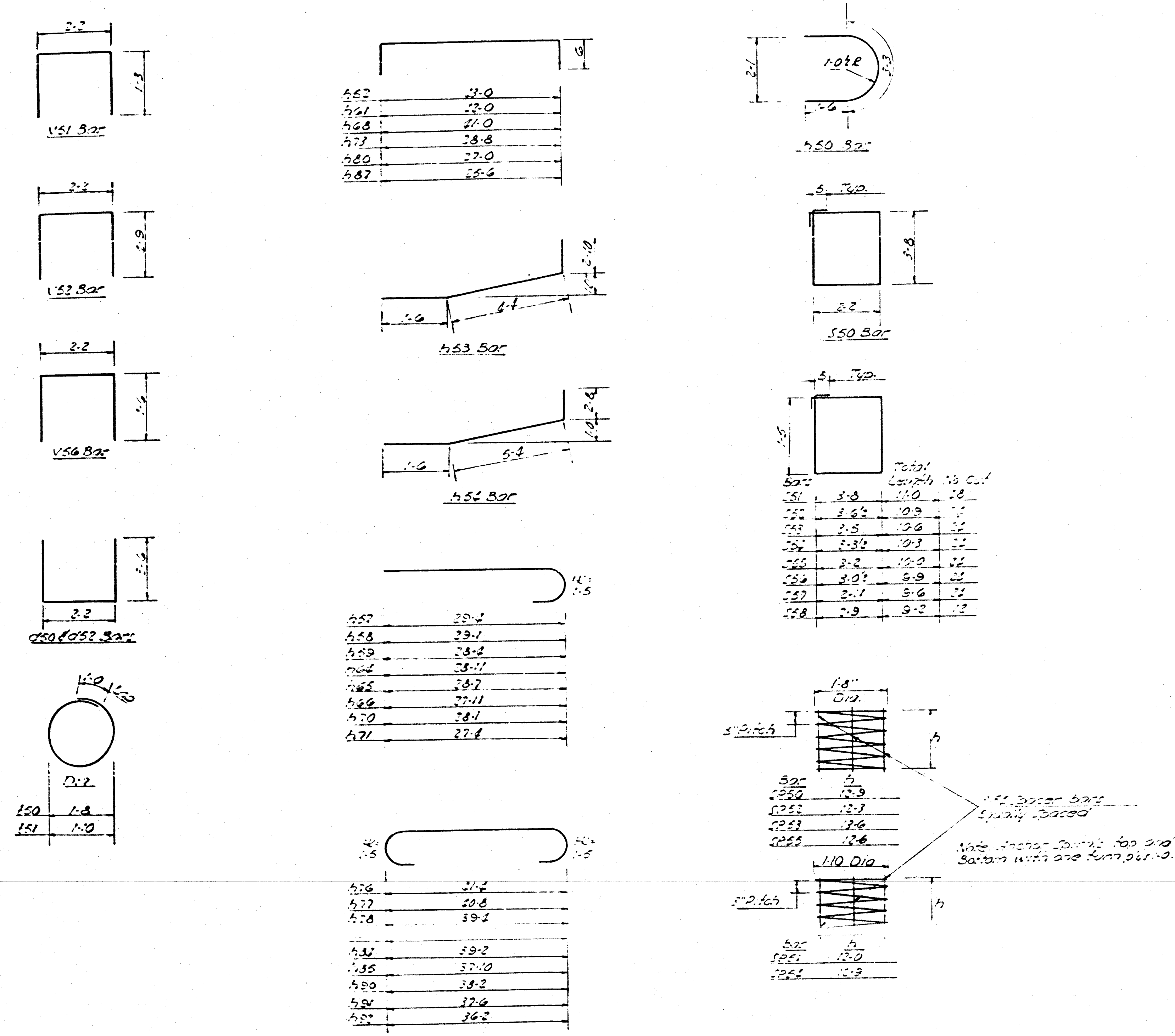
ILLINOIS DIVISION OF HIGHWAYS

F.A.I. RT. 74 BRIDGE OVER N.Y.C. R.R.
FAI - 74 SECTION 92-11VB-1
VERMILION COUNTY STA. 1900+80.59

PIER NO. 3 LEFT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DDR	RLF	WES	JWH LDB	HSM	7-12-62	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11VB-1	VERMILION	74	55
FEDERAL ROAD DISTRICT NO.	ILLINOIS	PROJ.		



BENDING DIAGRAMS

All bar dimensions are Out to Out

BAR SCHEDULE — RIGHT & LEFT BRIDGES

Pier	Bar	No.	Size	Length	Spacing	Shape
1&3 Rt.-1&3 Lt.	S50	[illegible]	5	3-2	1-0	
1&3 Rt.-1&3 Lt.	S51	[illegible]	5	3-6	Eq. Spa.	
2 Rt.-2 Lt.	S52	[illegible]	6	3-2	1-0	
2 Rt.-2 Lt.	S53	[illegible]	6	3-6	Eq. Spa.	
1 Rt.	H50	-	5	35-0	1-0	
2 Rt.	H51	6	5	36-0	As Shown	
3 Rt.	H52	4	5	36-6	As Shown	
1&3 Lt.	H53	6	5	35-2	As Shown	
3 Lt.	H54	[illegible]	5	31-0	As Shown	
All	H55	[illegible]	5	8-0	As Shown	
All	h50	[illegible]	5	6-3	As Shown	
1 Rt.	h51	6	5	63-0	1-0	
1 Rt.	h52	5	5	44-0	[illegible]	
All	h53	[illegible]	5	8-8	As Shown	
All	h54	[illegible]	5	9-6	As Shown	
1 Rt.	h55	2	8	25-0	As Shown	
1 Rt.	h56	2	5	[illegible]	As Shown	
1 Rt.	h57	2	10	30-3	As Shown	
1 Rt.	h58	2	10	30-6	As Shown	
1&3 Rt.	h59	6	10	29-9	As Shown	
2 Rt.	h60	[illegible]	5	42-0	1-0	
2 Rt.	h61	5	5	23-0	Eq. Spa.	
2 Rt.	h62	2	6	44-2	Eq. Spa.	
2 Rt.	h63	2	5	27-5	As Shown	
2 Rt.	h64	2	10	30-4	As Shown	
2 Rt.	h65	2	10	30-0	As Shown	
2 Rt.	h66	2	10	[illegible]	As Shown	
3 Rt.	h67	8	5	21-0	1-0	
3 Rt.	h68	6	6	22-0	Eq. Spa.	
3 Rt.	h69	2	5	26-10	As Shown	
3 Rt.	h70	2	10	29-6	As Shown	
3 Rt.	h71	2	10	28-9	As Shown	
1 Lt.	h72	8	5	38-8	1-0	
1 Lt.	h73	5	5	29-8	Eq. Spa.	
1 Lt.	h74	4	9	30-8	Eq. Spa.	
1 Lt.	h75	2	5	39-4	As Shown	
1 Lt.	h76	2	10	44-2	As Shown	
1 Lt.	h77	2	10	43-6	As Shown	
1 Lt.	h78	2	10	42-2	As Shown	
2 Lt.	h79	[illegible]	5	27-0	1-0	
2 Lt.	h80	2	5	28-0	Eq. Spa.	
2 Lt.	h81	2	6	29-2	Eq. Spa.	
2 Lt.	h82	2	5	37-10	As Shown	
2 Lt.	h83	2	10	42-8	As Shown	
2 Lt.	h85	2	10	40-8	As Shown	
3 Lt.	h86	8	5	25-6	1-0	
3 Lt.	h87	5	6	26-6	Eq. Spa.	
3 Lt.	h88	2	8	27-6	Eq. Spa.	
3 Lt.	h89	2	5	36-2	As Shown	
3 Lt.	h90	2	10	41-0	As Shown	
3 Lt.	h91	2	10	40-4	As Shown	
3 Lt.	h92	2	10	39-0	As Shown	
1&3 Rt.	h93	6	8	15-0	As Shown	
3 Rt.	h94	2	8	43-0	As Shown	

Pier	Bar	No.	Size	Length	Spacing	Shape
All	S50	250	5	12-6	As Shown	
All	S51-58	204	4	*	0-8	
1 Rt.	SP50	3	5	12-9	As Shown	
2 Rt.	SP51	4	5	12-0	As Shown	
3 Rt.	SP52	4	5	12-3	As Shown	
1 Lt.	SP53	3	5	13-6	As Shown	
2 Lt.	SP54	3	5	12-9	As Shown	
3 Lt.	SP55	3	5	12-6	As Shown	
1&3 Rt.-1&3 Lt.	t50	[illegible]	4	6-3	As Shown	
2 Rt.-2 Lt.	t51	21	4	6-9	As Shown	
1 Rt.-1 Lt.	V50	158	5	9-9	As Shown	
1 Rt.-1 Lt.	V51	73	5	6-8	1-0	
3 Rt.-3 Lt.	V52	28	5	11-8	1-0	
1 Rt.-1 Lt.	V53	56	7	6-0	Eq. Spa.	
1 Rt.	V54	32	7	16-0	Eq. Spa.	
2 Rt.-2 Lt.	V55	154	6	11-9	As Shown	
2 Rt.-2 Lt.	V56	71	6	5-2	1-0	
2 Rt.-2 Lt.	V57	[illegible]	11	6-0	Eq. Spa.	
2 Rt.	V58	28	11	15-3	Eq. Spa.	
3 Rt.	V59	32	7	20-6	Eq. Spa.	
3 Rt.-3 Lt.	V60	12	5	2-9	Eq. Spa.	
1 Lt.	V61	28	7	16-10	Eq. Spa.	
2 Lt.	V62	36	11	16-1	Eq. Spa.	
3 Lt.	V63	[illegible]	7	20-0	Eq. Spa.	
1 Rt.	Z50	50	5	7-0	1-0	
2 Rt.	Z51	51	8	8-6	1-0	
3 Rt.	Z52	47	5	6-0	1-0	
1 Lt.	Z53	36	6	7-0	1-0	
2 Lt.	Z54	36	8	8-6	As Shown	
3 Lt.	Z55	32	5	6-0	As Shown	

PIER QUANTITIES

Class X Concrete	467.6	Cu. Yds.
Reinforcement Bars	56,590	Lbs.
Class A Excavation	803	Cu. Yds.

Note: Quantities shown are for six piers. For quantities for each pier see sheets #49 thru 54.

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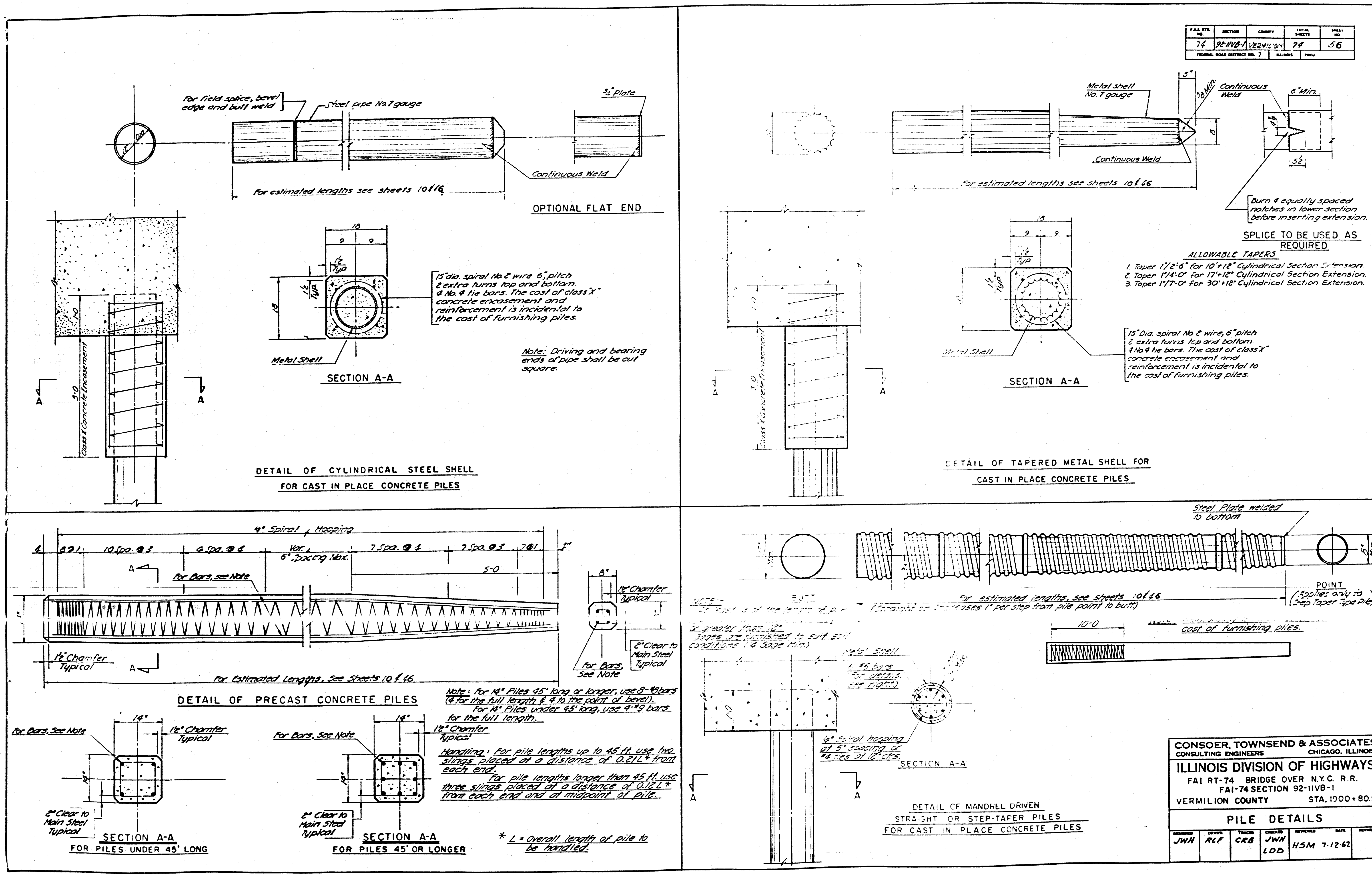
ILLINOIS DIVISION OF HIGHWAYS
FAI RT-74 BRIDGE OVER NYC R.R.
FAT-74 SECTION 92-11VB-1
VERMILION COUNTY STA1900+80.59

PIERS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SMH	WES	WES	SWH LDB	HSM	7-12-62	


F.A.I. RTE. NO. 74
SECTION 92-IIVB-1
COUNTY VERMILION
TOTAL SHEETS 74
SHEET NO. 56
FEDERAL ROAD DISTRICT NO. 7 ILLINOIS
For field splice, bevel edge and butt weld
Steel pipe No.7 gauge
3/8" Plate
Continuous Weld
For estimated lengths see sheets 10 & 46
OPTIONAL FLAT END
SECTION A-A
Metal Shell
15" dia. spiral No.2 wire 6" pitch 2 extra turns top and bottom. 4 No.4 tie bars. The cost of class "X" concrete encasement and reinforcement is incidental to the cost of furnishing piles.
Note: Driving and bearing ends of pipe shall be cut square.
Class X Concrete Encasement
DETAIL OF CYLINDRICAL STEEL SHELL
FOR CAST IN PLACE CONCRETE PILES
Metal shell No.7 gauge
Continuous Weld
6" Min.
Burn 4 equally spaced notches in lower section before inserting extension.
SPLICE TO BE USED AS REQUIRED
ALLOWABLE TAPERS
1. Taper 1'/2'6" for 10'+12" Cylindrical Section Extension.
2. Taper 1'/4'-0" for 17'+12" Cylindrical Section Extension.
3. Taper 1'/7'-0" for 30'+12" Cylindrical Section Extension.
15" Dia. spiral No.2 wire, 6" pitch 2 extra turns top and bottom. 4 No.4 tie bars. The cost of class "X" concrete encasement and reinforcement is incidental to the cost of furnishing piles.
DETAIL OF TAPERED METAL SHELL FOR
CAST IN PLACE CONCRETE PILES
1/4" Spiral Hooping
10 Spa. @ 3
6 Spa. @ 6
Var. 6" Spacing Max.
7 Spa. @ 4
7 Spa. @ 3
5-0
For Bars, see Note
1/2" Chamfer Typical
2" Clear to Main Steel Typical
For Estimated Lengths, See Sheets 10 & 46
DETAIL OF PRECAST CONCRETE PILES
Note: For 14" Piles 45' long or longer, use 8-#8 bars (4 for the full length & 4 to the point of bevel). For 14" Piles under 45' long, use 4-#9 bars for the full length.
Handling: For pile lengths up to 45 ft. use two slings placed at a distance of 0.21L* from each end. For pile lengths longer than 45 ft. use three slings placed at a distance of 0.12L* from each end and at midpoint of pile.
* L = Overall length of pile to be handled.
SECTION A-A
FOR PILES UNDER 45' LONG
SECTION A-A
FOR PILES 45' OR LONGER
Steel Plate welded to bottom
BUTT
POINT (Applies only to step Taper Type Pile)
For estimated lengths, see sheets 10 & 46
cost of furnishing piles.
10-0
Metal Shell
SECTION A-A
DETAIL OF MANDREL DRIVEN
STRAIGHT OR STEP-TAPER PILES
FOR CAST IN PLACE CONCRETE PILES
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ILLINOIS DIVISION OF HIGHWAYS
FAI RT-74 BRIDGE OVER N.Y.C. R.R.
FAI-74 SECTION 92-IIVB-1
VERMILION COUNTY STA. 1900+80.59
PILE DETAILS
DESIGNED JWH
DRAWN RLF
TRACED CRB
CHECKED JWH LDB
REVIEWED HSM
DATE 7-12-62